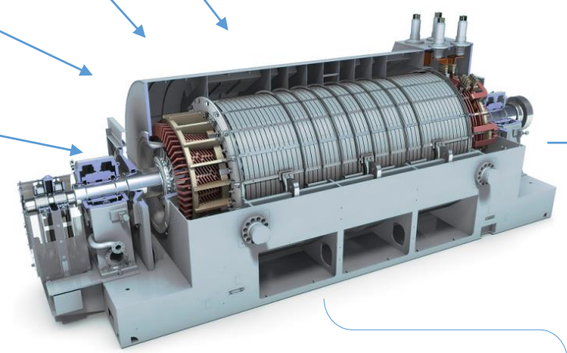
Innovative Clean Energy of the Future

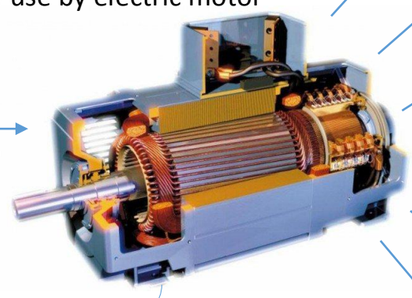
Energy Flow and Distribution

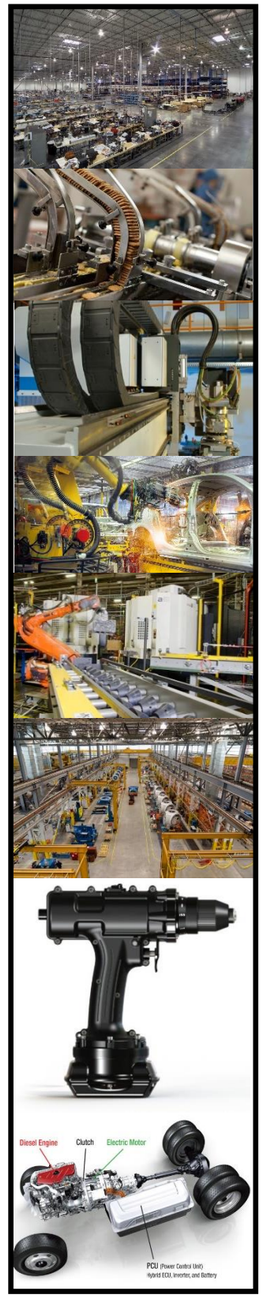
All technologies need energy. From time to time human increase its technology to increase quality of life by exertion all energy sources and transform to kinds energy that needed. Almost all of energies transformation by using electric generator and electric motor. Electric motor and generator act as gate in transformation energy resources to empowering technology

More than 80% of energy change to electrical energy by electric generator



More than 80% of electrical energy use by electric motor





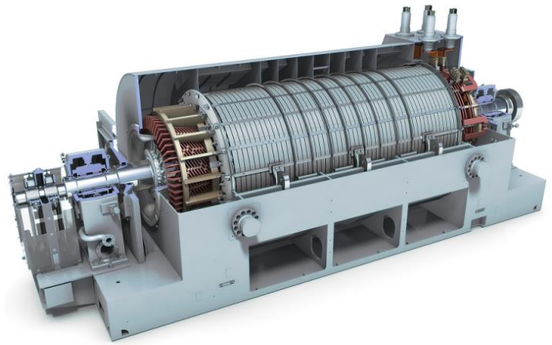
Increasing technology of gate will increase production of energy, increase efficiency of energy use and decrease energy cost.

With these technologies will provide lowest energy cost and lowest energy consumption.

Compatible and ease in application.

Increase technologies of energy production with green energy and increase efficiency energy use new with innovation PEMF and multi wires method

Increase technology, quality of life and nature

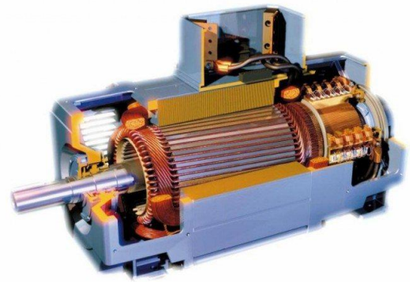


PEMF or Multi wires method increase electrical energy output of generator that bigger than conventional generator without increase scale, cost of production and input power and also compatible in same shape factor of generator.

It will decrease energy input consumption and operation cost.

It will keep source energy availability.

It will increase profit of electric power providers.



Multi wire method can increase rotation or torque on All kinds of electric motor without increase scale and input power.

Electric motor with multi wire method can increase multi times velocity of rotation and torque with same input power that can substitute to decrease power input to reach same rotation with conventional electric motor, so this method is more efficient and green than conventional method.

This method can decrease production cost, decrease operational cost of electric motor, decrease heat, decrease dimension of battery (decrease count of cells off battery) decrease weight or it could make longer life of battery, Compatible in application and more advantages.

Increase technology of electric motor will increase quality production of industry.

Increase technology of electric motor will decrease operations cost and increase profit of industry.

Increase technology will increase quality of human life and environment.

All in ease and compatible to application. Files below will explain PEMF (Potential Electro Motion Force) and Multi wires method based on working prototype.

Innovation of PEMF (Potential Electro Motion Force) method in electric generating to increase reactivity of electron move in conductor for generator and semiconductor for solar cell that generate by electromagnetic induction by using magnetics flux and Innovation of multi wires method to increase electric current that produced by decrease electrons obstruction for generator

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Abstract

Inside of electric generator occurred undue obstruction electric current in transform of energy. This obstruction occurred by incommensurate electron figure that flow between area that electron flow in wire and these phenomena caused by skin-effect. Increase flows area by innovative multi wires method will decrease electrons obstruction and heat so the production electric current of generator will increase because of it better transform of energy.

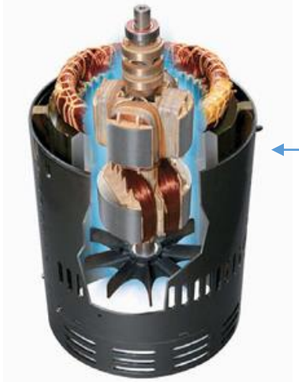
Electrons flow and potential difference or voltage is conjunction of cause effect of electro motion force in electromagnetic induction in generator and Solar cell photovoltaic. Increasing potential and reactivity of electro motion force can increase that cause effect conjunction. Increasing potential reactivity electron move is main idea of PEMF method and it method increasing production of potential difference in electromagnetic induction by applicate new innovations in major part of generator and Solar cell photovoltaic better energy transformation will appears.

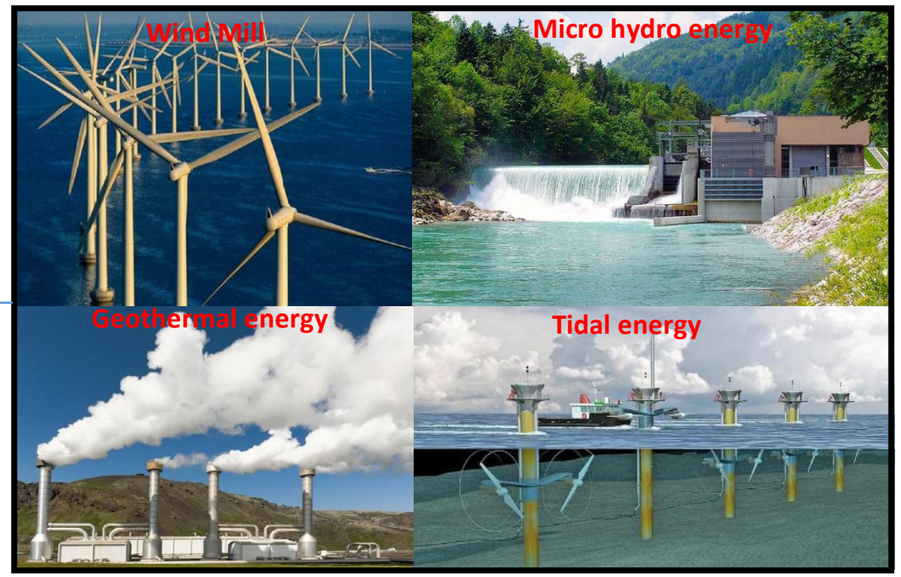
For increase green power generating, portable to applicate everywhere need to increase its technologies in increase stability power generating, decrease cost production and operation it will make suitable green technology takes over conventional technologies. PEMF and multi wires method are new innovation technology that more green, more power generation, lower cost production and application, compatible and directly applicate to conventional technology and with new theories that possible to increase more and more.

Files below will explain these technologies.

Innovation of Multi wires method generator to increase output power or decrease dimension generator

Conventional method to produce electrical energy





Multi wires method to produce electrical energy

- Low and Unstable output energy production.
- Relatively high cost energy production, installation and operation compared with output of energy.

- These methods are increase electrical energy output generator without increase scale, cost of production and input power in same shape factor of generator.
  Increase of power production of generator with same Shape factor and input power than conventional generator that can substitute to decrease dimension of generator to product equal power level, so the generator is more effective than before.
- New technology that increase energy production, stable, compatible and low cost production and application.
- Profitable make it reasonable to applicate.

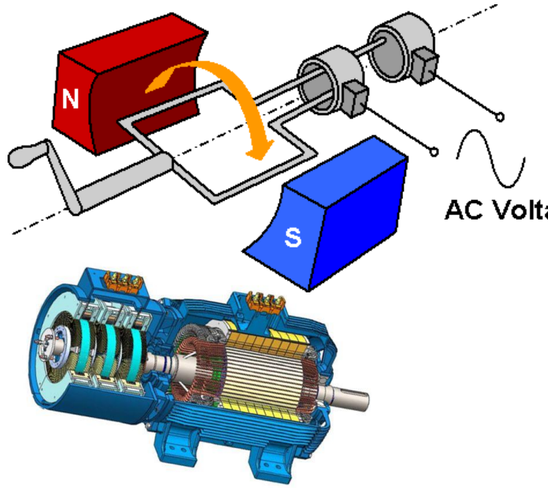
Files below explain Multi wire method technology, theory and application based on working prototype

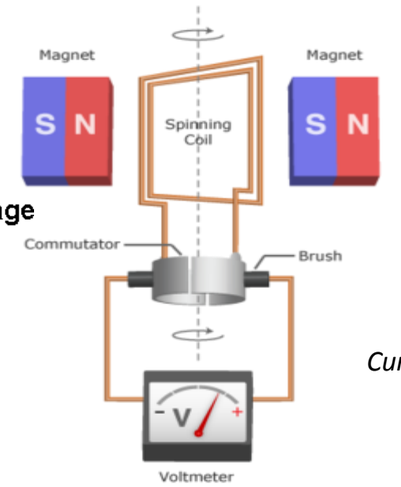
Multi wires method in generator

in all kinds of generator rotation of rotor that generated fluctuation frequencies electro motion force or voltage. Fluctuation of electric current generate skin-effect in wire and induce decreasing area that electron flow thus multi wires method to solve this trouble. The grade of optimization is proportionate the grade of distraction of electric flows.

Electric current in generator and multi wire method

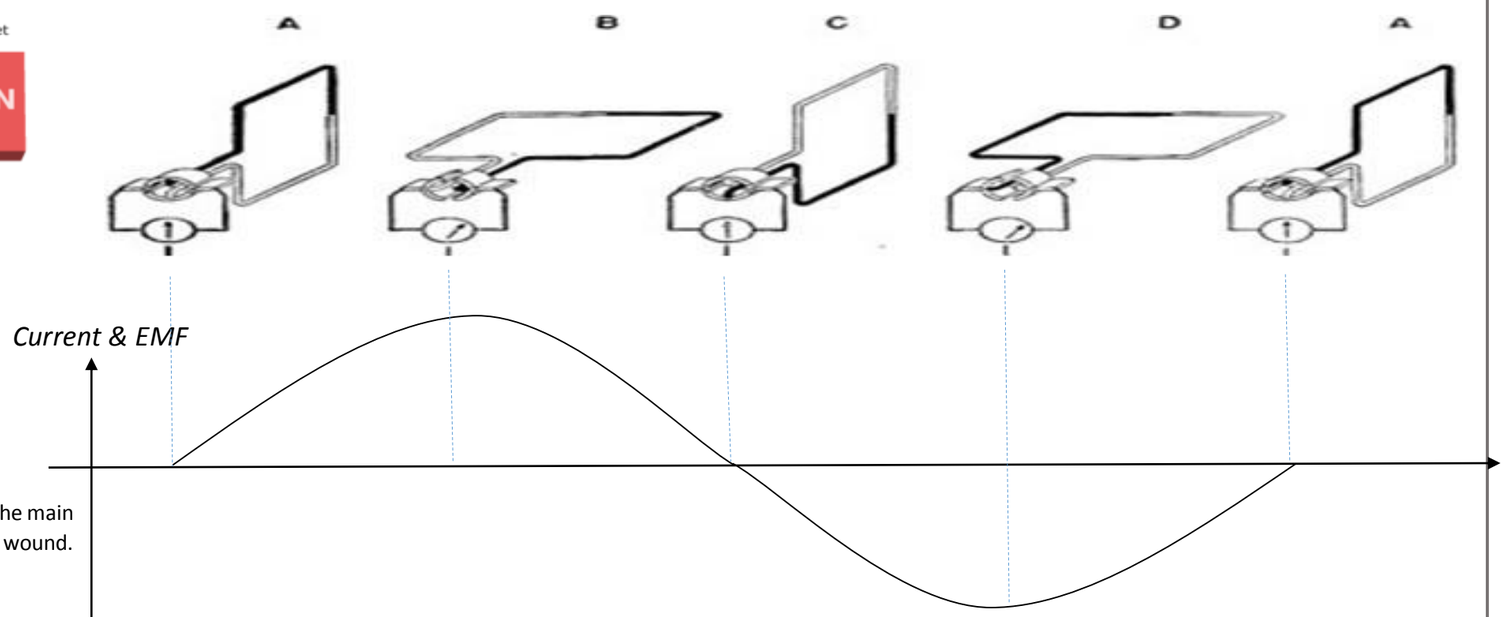
Produces electric power in generator by rotation of rotor generated fluctuation frequencies pattern of electric current.





AC Voltage

In rotation generators rotor electric power that produced from wound of generator describe in illustration below

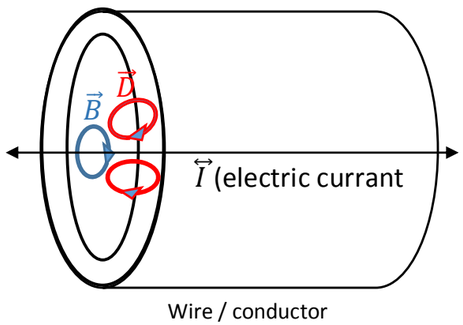


In wound of generator beside have similar pattern of electric currant in that wound. That is the main part of generator. Commutator or slip-ring just differencing electric current out from similar wound.

Hysteria of magnetic wave

Caused of fluctuation frequencies pattern of electric current in wound wire generates Eddy current that push electrons flow to skin area of generators wire.

Illustration of electric current in wire.

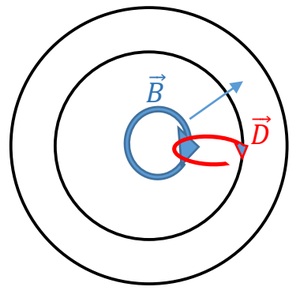


Based James Clerk Maxwell equation in electromagnetic induction:

$Q = \oint \vec{D}.\partial\vec{s}$ $\quad \oint \vec{H}.\partial l = \frac{\partial \vec{D}}{dt}$ $\quad \oint \vec{E}.\partial l = \frac{\partial \vec{B}}{\partial t}$

Fluctuating of electric current $\overleftrightarrow{I}(Q/t)$ generated fluctuating of magnetic field intensity $\vec{H}$.

Fluctuating of Magnetic field $\vec{B} = \mu.\vec{H}$ generate looping flow Electric field $\vec{E}$ that source of Eddy currant. This hysteria induces skin-effect.



Skin effect formula δ (m) = $\sqrt{\frac{1}{\pi.f.\mu.\sigma}}$

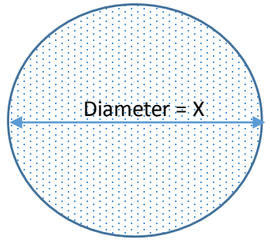
δ : skin depth (m) f : frequency of fluctuating current

μ : permeability of wire σ : conductivity of wire

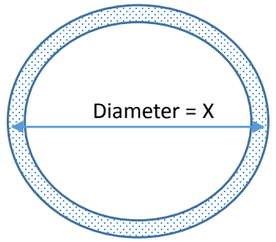
From these phenomena caused electron flow just in surface of wire as illustrated below. Blue dots represent electron flow of electric current.

Multi Wires Method

Both wire have same dimension and have equal load but fluctuating current push all electron moves in surface of wire.

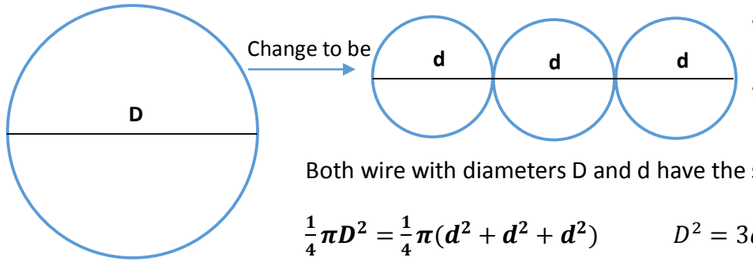


DC currant / flat current



Fluctuating current

These phenomena inhibit generates of magnetic wave to rotating rotor of generator and trigger heat in it. Multi wires method is the method that substitute single big wire to multi small wires that has same size to increase electrons flow.



Single big wire with diameter D change to be couple small wires with dimeter d in same size. Conventional generator using single big wire in one coil but multi wires method substitute single big wire to multi small wires with same all shape factor.

Both wire with diameters D and d have the same size $\frac{1}{4}\pi D^2$ and $\frac{1}{4}\pi(d^2+d^2+d^2)$

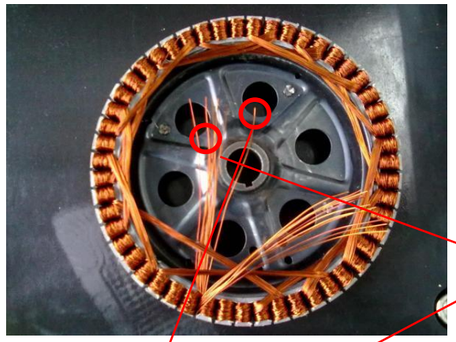
$\boldsymbol{\frac{1}{4}\pi D^2 = \frac{1}{4}\pi(d^2+d^2+d^2)}$ $D^2 = 3d^2$ If D = 0,35mm so d = 0,2mm

<u>The circumference of wire is area that electron flow. In wire D has πD = 0,35π mm and in wire d has 3πd = 3*0,2π = 0,6π mm of circumference.</u>

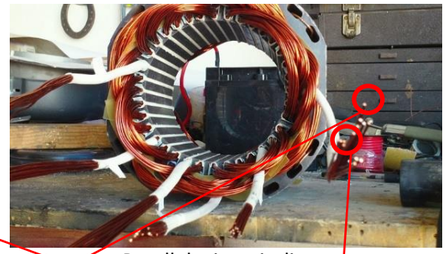
No	Diameter (mm)	Extent of wire	Size of wire /wires	Circumference of wire
1	0.35	1	0,096 mm^2	0.35π mm
2	0.25	2	0,096 mm^2	0.5π mm
3	0.2	3	0,096 mm^2	0.6π mm

If [L] is the factor of increasing discretion electron flow is proportional increasing of circumference in same size based on experiment. [L] factor of increasing of discretion for three wire 0.2 mm of diameter with single wire 0.35 mm diameter is $L = \frac{0,6\pi}{0,35\pi} = 1,7142$ Meanwhile L for single wire = 1. For single wire with 0,35 mm of diameter $L = \frac{0,6\pi}{0,6\pi} = 1.$

Application Multi wires method in stator of Generator.

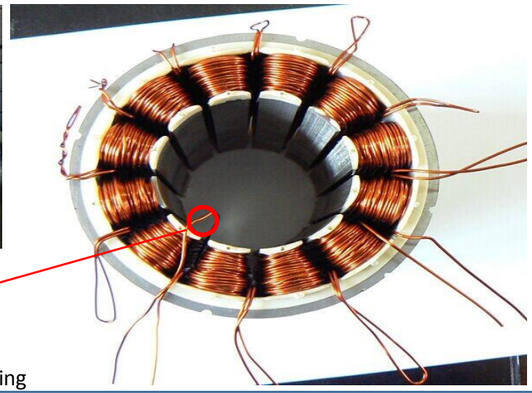


Parallel wire winding

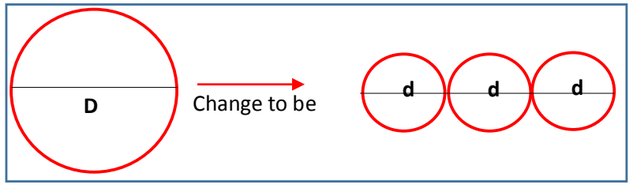


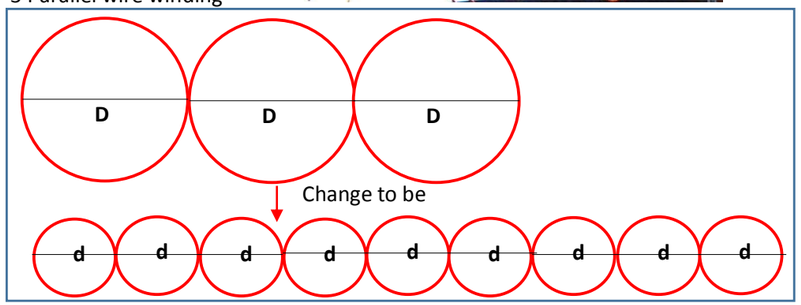
Parallel wire winding

Single wire winding



3 Parallel wire winding



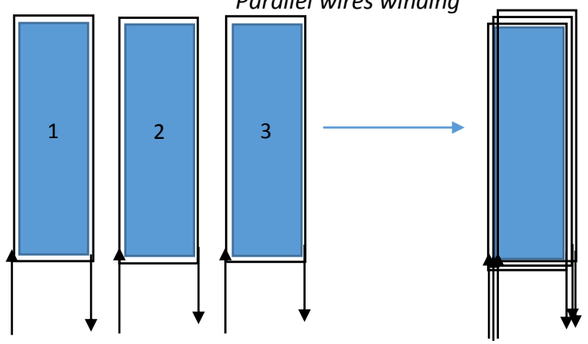


multi wires method

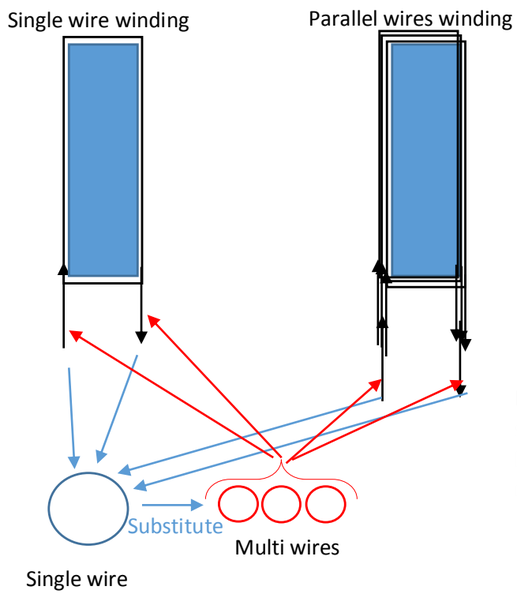
Substitute one of parallel wire of winding or one single wire of winding to multi small wire which are substituted wires have same and equal size with origin wire.

Difference multi wires method with parallel wire method

Parallel wires winding



Parallel wires winding Integrates few core winding to one core. It may same size or different size of wire. Purpose of Parallel winding is to combine few cores to one core.

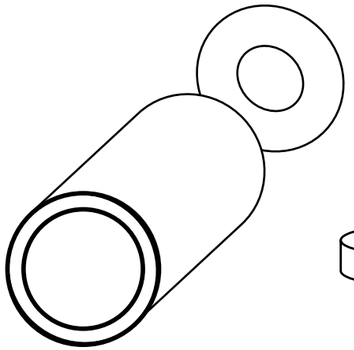


Multi wires method Substitute All of parallel wire winding or one single wire to multi small dimension wire which are substituted wires have same and equal size with origin wire. Purpose multi wires method is to increase quantity electrons flow and cope skin-effect.

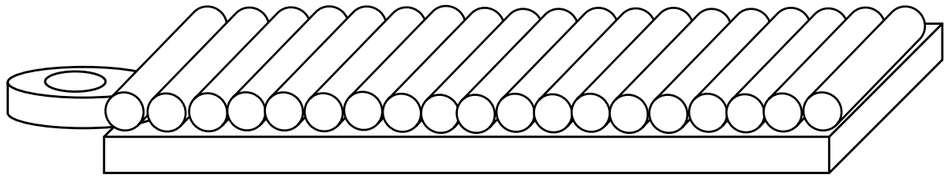
Difference connector Multi wires method, Parallel winding and Litz-wire winding

Connector wiring input and output for generator that connecting between winding or wound with output power for electric generator.

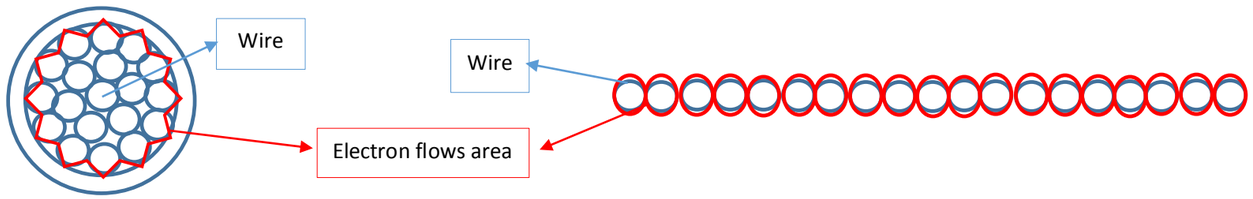
The Explanation below are 19 wires with multi wires methods and Parallels or litz-wires connector



Parallel and Litz-wire winding connector



Multi wires method connector

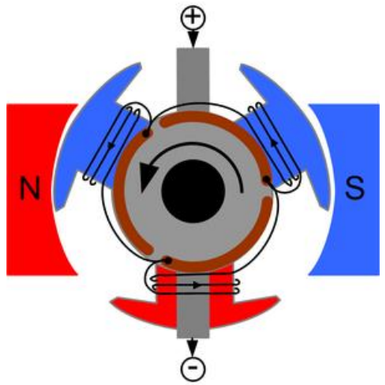


Hysteria magnetic wave that comes from fluctuating current in electric generator wire winding push electron to outside of conductor that make distribution electron flow push to outside of wires.

Red line is distribution area electron flow. Multi wires connector is based on respond of fluctuating electric current character in each wire that make distribution electron flow spread in all skin of wire that more than conventional parallel and litz-wire connector.

Multi wires method connector make increase quantity electron flows than in parallel and litz-wire connector just decrease loss.

Experiment and result increasing Electric current in generator with multi wires method

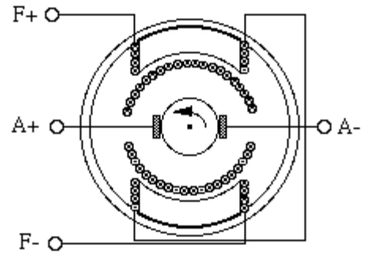


Increases of outputs electric current generators equal with factor of increasing discretion electron flow.

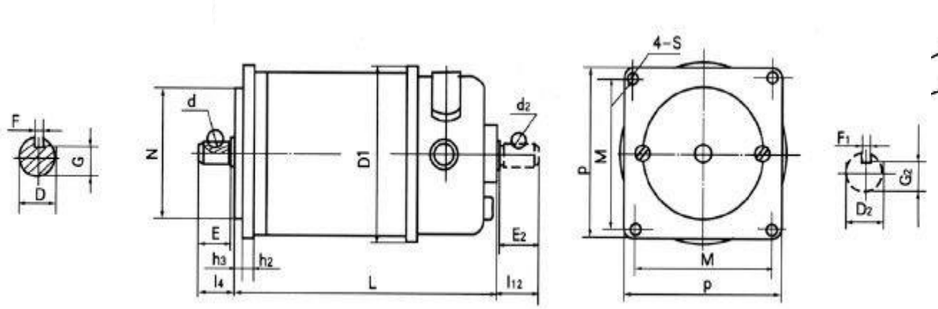
$Increasing\ electric\ current\ = electric\ current\ compared. L$

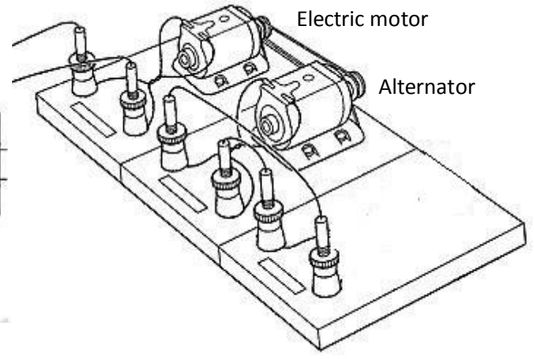
Testing of multi wires method was done in small generator.

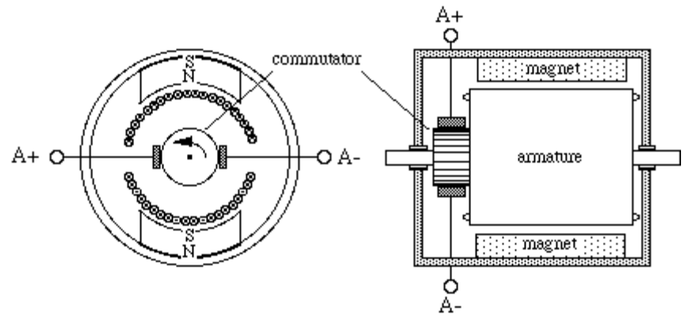
- Equality of electric current that flows in coils.
- Small in dimension with low efficiency that proof how effective this method if use in big or high efficiency of generator.
- It has single core that inducted by magnetic flux so that ease to detected of increasing of electric current and ease to convers in another type of generator.



The experiment and result increase electric current with compare conventional and multi wires method generators prototype







Experiment did with small generator with efficiency ±0.85 that rotated by electric motor that compare single wire 0.35 mm of diameter 35 coils with double wires 0.25 mm of diameter 35 coils and triple wires 0.2 mm of diameter 35 coils.

	Diameter (mm)	Extent of wire	Size of wire /wires	Circumference of wire	[L]
1	0.35	1	0,096 mm^2	0.35π mm	1
2	0.25	2	0,096 mm^2	0.5π mm	1.4
3	0.2	3	0,096 mm^2	0.6π mm	1.7

The experiment did in October 5th 2015

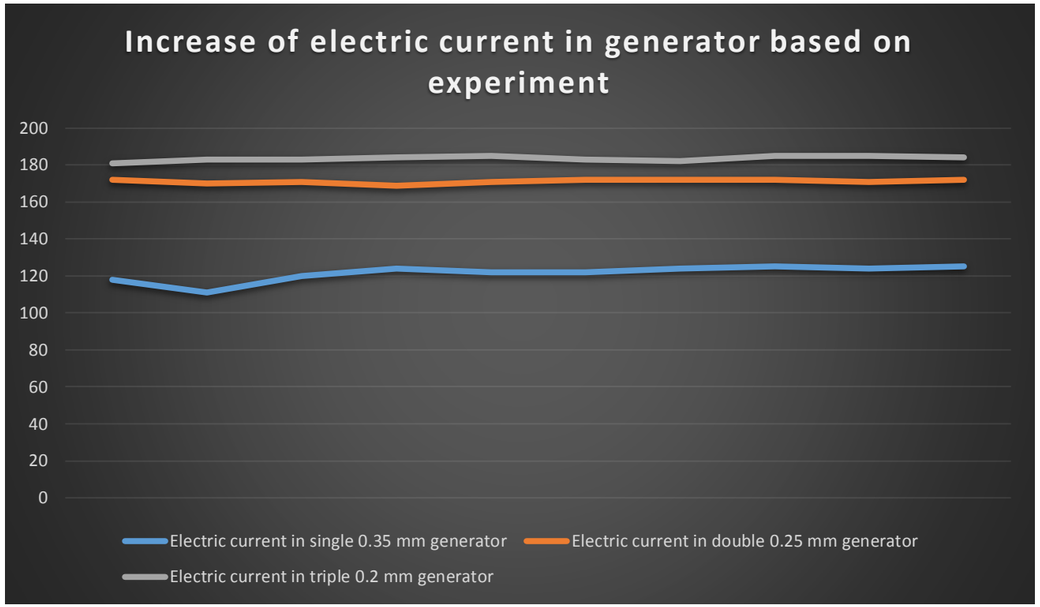
Results of experiment

No (mA)	Single wire 0,35 mm	Double wires 0.25 mm	Triple wires 0,2 mm
1	118	172	181
2	111	170	183
3	120	171	183
4	124	169	184
5	122	171	185
6	122	172	183
7	124	172	182
8	125	172	185
9	124	171	185
10	125	172	184
Mean	**121,5**	**171,2**	**183,5**

Based on experiments, increase of electric currents 2 wires multi wires method is 41 % and increase electric current 3 wires multi wires method is 51 %.

Result of experiment multi wires method in generator

Chart of increase power (electric current) of prototype generator based on experiment



With knows wound scheme and size of coils wire increase of torque will obtainable

$Increasing\ electric\ current\ = electric\ current\ compared.\ L$

Equations Conversion	Conventional Generator	Multi wires Generator
Electromagnetic induction from 4 Maxwell equations	$\oint \vec{E}.\partial\vec{l} = \frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}$	$\oint \vec{E}.\partial\vec{l} = \frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}$
Electric current	$\frac{\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}}{Impedance}$	$L.\frac{\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}}{Impedance}$
Electric power	$\frac{\left(\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}\right)^2}{Impedance}$	$L.\frac{\left(\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}\right)^2}{Impedance}$

Innovation multi wires method in electromagnetic induction and various options of advantages in generator applications

Generator with multi wires method

For Generator

These methods are increase electrical energy output generator without increase scale, cost of production and input power in same shape factor of generator.
Increase of power production of generator with same Shape factor and input power than conventional generator that can substitute to decrease dimension of generator to product equal power level, so the generator is more effective in than before.

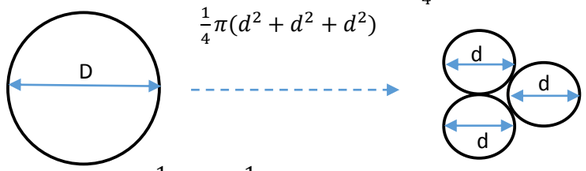
Increase Output power of generator

Electric current conventional generator = I

Electric current same shape factor with multi wires method = $L.I$

One multi wires generator with [L] = 2 has equal output power with two conventional generators by applicate multi wires method just in stator generator but if applicate in exciters rotor and stator generator with adaptability wound scheme, that generator has equal with 4 generator or more.

Single big wire with diameter D to couple small wires with dimeter d in same size. Both wire with diameters D and d have the same size $\frac{1}{4}\pi D^2$ and $\frac{1}{4}\pi(d^2+d^2+d^2)$



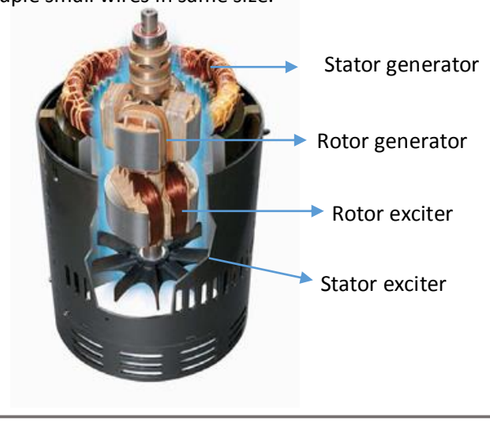
$$\frac{1}{4}\pi D^2 = \frac{1}{4}\pi(d^2+d^2+d^2)$$

Application multi wires method with substitutes single big wire to couple small wires in same size.

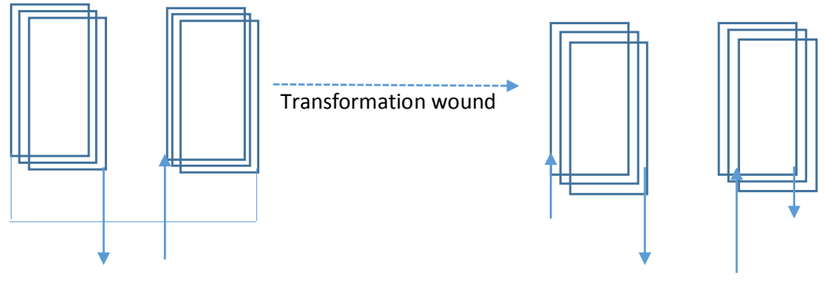
One multi wires generator with [L] = 2 has equal output power with two conventional generators by applicate multi wires method just in stator generator. With same wound scheme increasing with multi wires method just in electric current, so with multi wires method in stator generator with [L] = 2 will increase electric current output without increasing voltage output.

With [L] = 2 application multi wires method in rotor exciter, rotor generator and stator generator

Stator exciter usually in DC current so make multi wires method does not work. Rotation rotor make rotor exciter inducted by stator exciter and with multi wires method with [L] =2 will increase electric current to rotor generator 2 times than conventional method (100%). Increasing of electric current will increasing magnetic wave 2 times to induct stator generator. Without change voltage output and rotation rotor scheme of stator wound has to change.



Transformation wound scheme



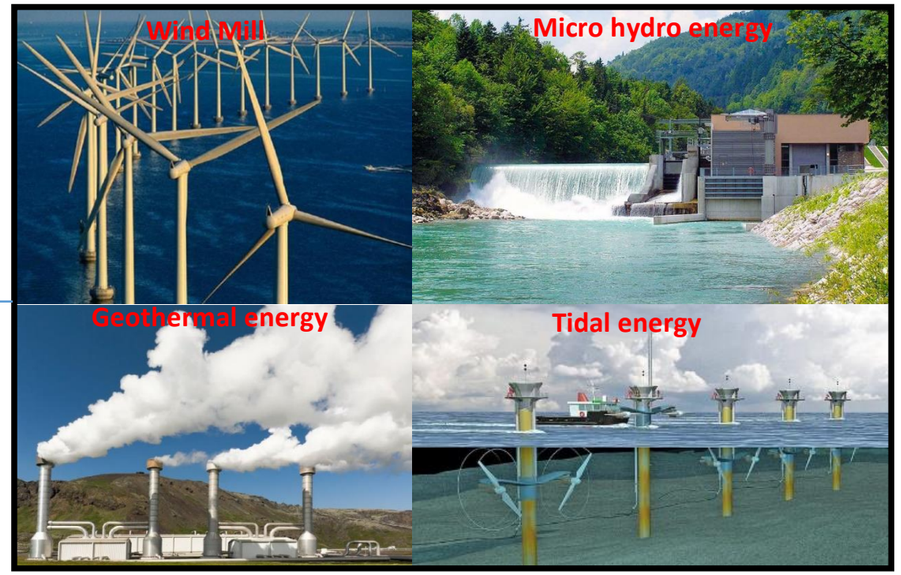
Transformation wound two series cores to two shunt cores in all cores generator to reach same voltage output and with application multi wires method in each core generator make it generator equal power output with 4 conventional generators with same shape factor.

Increasing power need to change AVR generator.

Without change wound scheme and dimension generators core. This option will increase output power or energy production of generator.

Innovation of PEMF (Potential Electro Motion Force) method generator to increase output power or decrease dimension generator

Conventional method to produce electrical energy



PEMF (Potential Electro Motion Force) method to produce electrical energy

- Low and Unstable output energy production.
- Relatively high cost energy production, installation and operation compared with output of energy.

- These methods are increase electrical energy output generator without increase scale, cost of production and input power in same shape factor of generator.
  Increase of power production of generator with same Shape factor and input power than conventional generator that can substitute to decrease dimension of generator to product equal power level, so the generator is more effective than before.
- New technology that increase energy production, stable, compatible and low cost production and application.
- Profitable make it reasonable to applicate.

Files below explain PEMF (Potential Electro Motion Force) method technology, theory and application based on working prototype

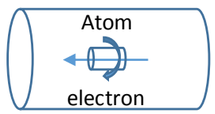
Innovation of PEMF (Potential Electro Motion Force) methods generator to increase output power or decrease dimension and cost production of generator

Electrons flow and potential difference or voltage is conjunction of cause effect of electro motion force in electromagnetic induction. Increasing potential and reactivity of electro motion force can increase that cause effect conjunction. Generator is instrument that produce electric power by transform rotations energy with electromagnetic induction. Increasing potential reactivity electron move is main idea of PEMF method in generator and it method increasing production of potential difference and electrics currant or decreasing dimension and cost production of generator.

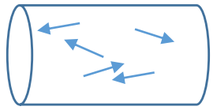
In magnetic field area electro motion force produced by change of magnetics flux, these phenomena observed when conductor put inside in side field. It may say that motion of electron is source that produced by change of magnetic flux that feel or sense by conductor inside magnetic field. Increasing sense of conductor will increase its product or increasing sensitivity of conductor to feel magnetic field, that is PEMF method.

Conductor elementary magnet

All things consist of atoms including the conductor. An atom is an elementary of magnet that spin of electron to atomic nucleus in all time.



For simply form on elementary magnet of conductor as illustrated below.

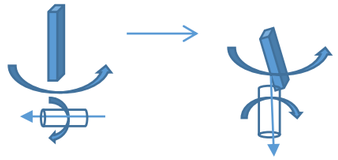


Random direction or polarity elementary magnet neutralizing magnetic character of conductor and it character of conductor.

Electromagnetic induction on conductor elementary magnet

In magnetic field change of magnetic flux produce electro motion force in conductor. The difference of potential consist of different potential of elementary conductor as illustrated below.

1.



2.

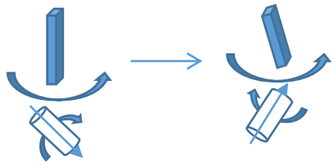
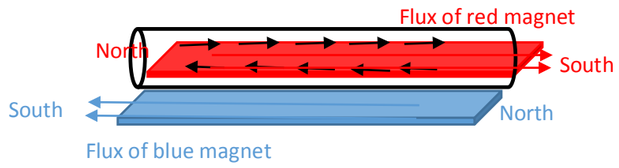


Figure 1. is electromagnetic induction when polaritation elementary conductor parallel with conductor and figure 2. is electromagnetic induction when polaritation elementary conductor not parallel with conductor. Random direction or polarity elementary magnet in wire or conductor and it electro motion force in figure 1. is bigger than figure 2. caused parallelism electron moving in figure 1 with conductor.

Bidirectional polarity of conductor elementary magnet with magnetic flux

Magnetic field is area of magnetic induction by flux magnet. In flowing flux from north to south pole of magnet induct elementary conductor as illustrated below.

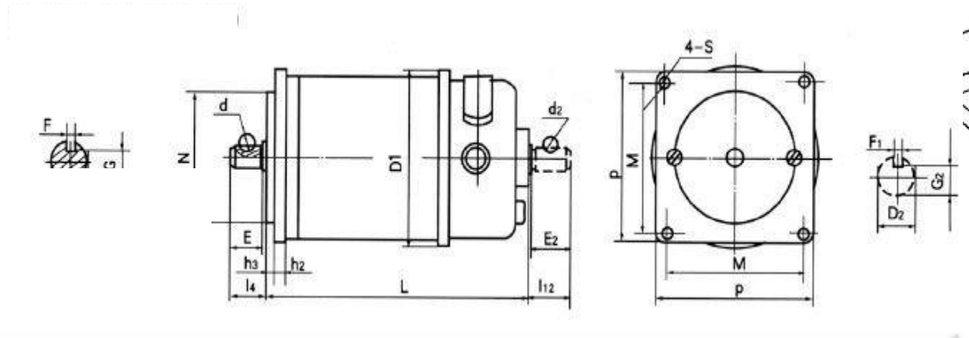


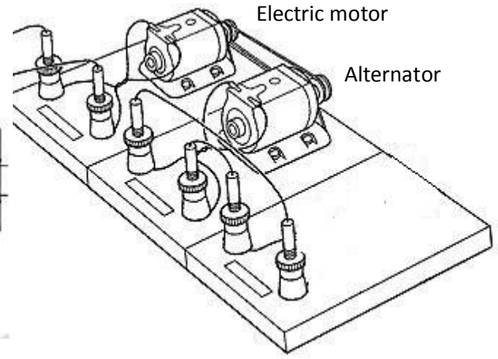
Blue and red magnet have opposite pole position and static to wire. Each magnet induction 100% wire with each polarization that make wire has bidirectional polarity of elementary conductor magnet. These will increase sensitivity conductor to feel change of magnetic field or increasing potential reactivity electron to move by electromagnetic induction.

Experiment of PEMF method in generator

Experiment did in same parameter of two generators. One generator with 25% of PEMF method. It means that just 25% of wire that have bidirectional polarity and other generator with conventional method. The experiment will compare potential difference and electric currant with each generator and it increasing.

The experiment and result increase of power with compare conventional and PEMF method generators prototype

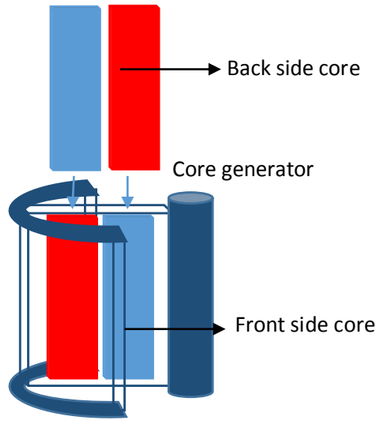




The experiment did in October 5th 2015

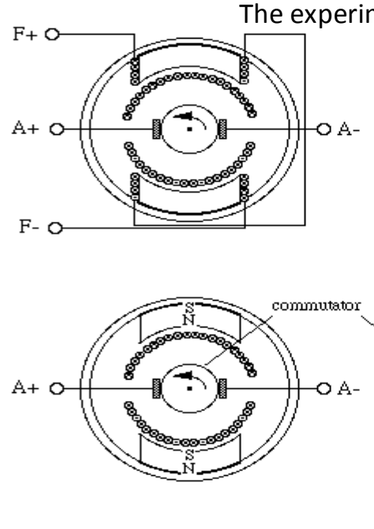
Results of experiment

No (mA)	Single 0.35 mm conductor Electric current		Two 0.25 mm conductor Electric current		Three 0.20 mm conductor Electric current	
	Conventional generator	PEMF generator	Conventional generator	PEMF generator	Conventional generator	PEMF generator
1	118	146	172	188	181	203
2	111	146	170	188	183	204
3	120	146	171	189	183	205
4	124	147	169	190	184	207
5	122	147	171	190	185	206
6	122	147	172	190	183	205
7	124	149	172	191	182	207
8	125	149	172	191	185	206
9	124	149	171	193	185	207
10	125	150	172	194	184	207
Mean	**121,5**	**147,6**	**171,2**	**190,4**	**183,5**	**205,7**
No (mV)	Single 0.35 mm conductor voltage		Two 0.25 mm conductor voltage		Three 0.20 conductor voltage	
	Dynamo	BS Dynamo	Dynamo	BS Dynamo	Dynamo	BS Dynamo
1	500	574	495	541	499	580
2	505	578	505	573	503	579
3	509	579	509	579	505	579
4	510	580	510	580	510	581
5	510	582	511	581	510	580
6	511	581	513	581	511	579
7	513	584	514	582	513	584
8	517	585	517	580	519	580
9	516	580	516	581	520	583
10	519	585	516	583	524	581
Mean	**511,0**	**580,8**	**510,6**	**576,1**	**511,4**	**580,6**



With 25% capacity of PEMF method increase 13,6% of potential difference, increase 69.3% of electric current and increase 90.9% of power than conventional generator with same parameter.

No (mW)	Electric power conventional generator	Electric power three 0.2 multi wires 25% PEMF generator
1	50	116
2	56.05	116
3	61.08	117
4	63.24	120
5	62.22	119
6	62.22	118
7	63.6	121
8	64.6	119
9	63.9	121
10	64.8	120
Mean	**61.8**	**118**



Experiment did with small generator that compare single wire 0.35 mm of diameter 35 coils with double wires 0.25 mm of diameter 35 coils and triple wires 0.22 mm of diameter 35 coils with 25% PEMF by using NdFeB (Neodymium) permanent magnet.

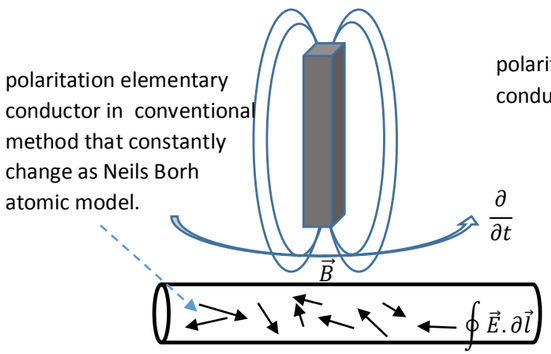
No	Diameter (mm)	Extent of wire	Size of wire /wires	Circumference of wire	[L]
1	0.35	1	0,096 mm^2	0.35π mm	1
2	0.25	2	0,096 mm^2	0.5π mm	1.4
3	0.2	3	0,096 mm^2	0.6π mm	1.7

With small size of generator existence increasing of power shows how effective this method.

Result of experiment multi wires and PEMF method generator

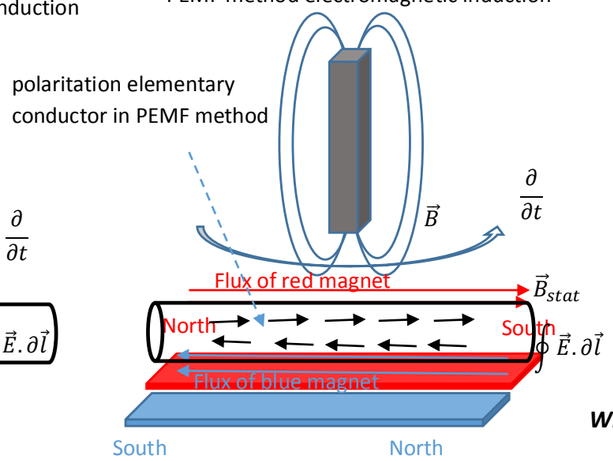
Static magnetic induction increase reactivity electron to move by dynamic magnetic induction in conductor. Parallelism atomic conductor (elementary magnet) increase different potential by increasing reactivity electron to move. Electro motion force in conventional electromagnetic induction is potential different in random polarity of atomic conductor while in PEMF method electro motion force is potential different in bidirectional polarity of atomic conductor. Illustrating below is electromagnetic induction in conventional and PEMF method with additional component of formula.

Conventional electromagnetic induction



$$\oint \vec{E}.\partial\vec{l} = \frac{\partial \iint \vec{B}.\partial\vec{s}}{\partial t}$$

PEMF method electromagnetic induction



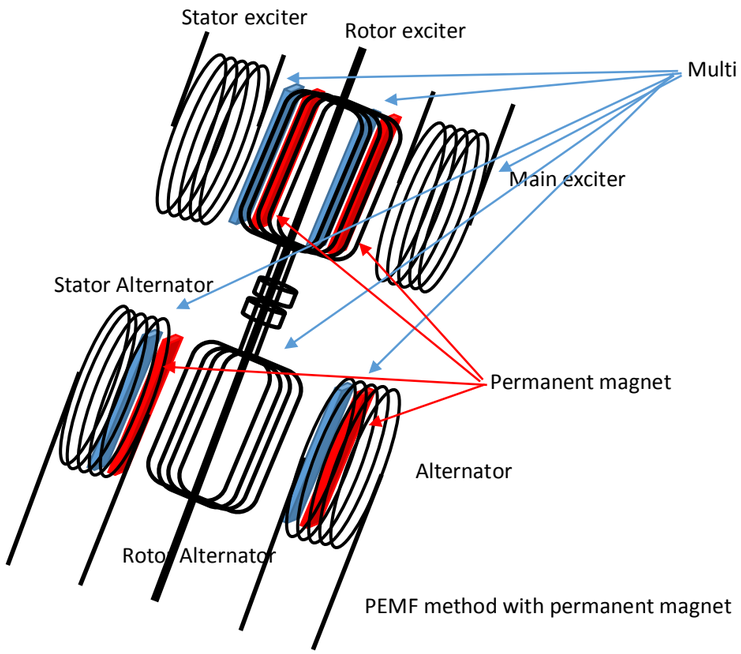
$$\oint \vec{E}.\partial\vec{l} = \frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}$$

Equations Conversion	Conventional Generator	Multi wires and PEMF Generator
Electromagnetic induction from 4 Maxwell equations	$\oint \vec{E}.\partial\vec{l} = \frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}$	$\oint \vec{E}.\partial\vec{l} = \frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}$
Electric current	$\frac{\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}}{Impedance}$	$L.\frac{\frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}}{Impedance}$
Electric power	$\frac{\left(\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}\right)^2}{Impedance}$	$L.\frac{\left(\frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}\right)^2}{Impedance}$

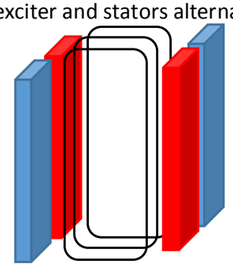
With multi wires method

$$\oint \vec{E}.\partial\vec{l} = \frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}$$

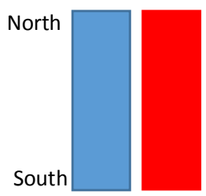
Pictures below explain application multi wires method and PEMF method with permanent magnet and solenoid in Alternator.



Architecture permanent magnet PEMF method in rotors exciter and stators alternator



Wound of rotors exciter and stators alternator

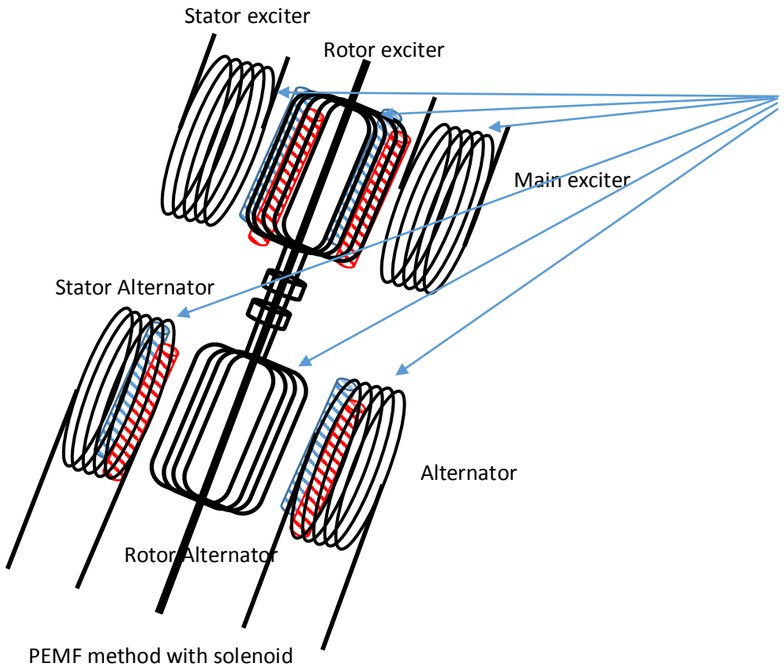


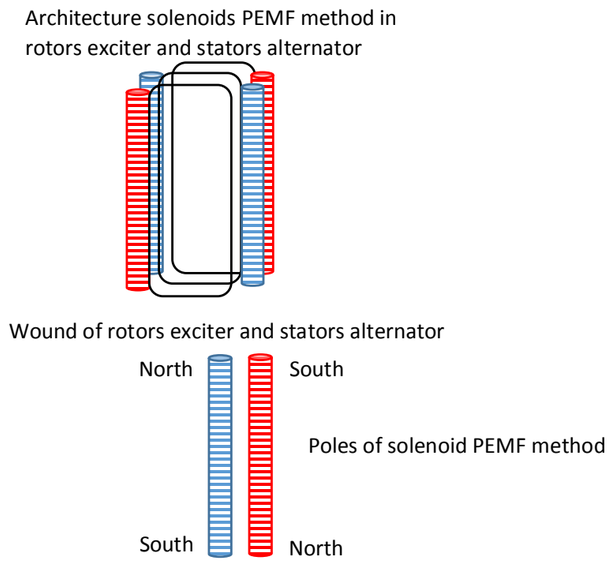
Poles of permanent magnet PEMF method

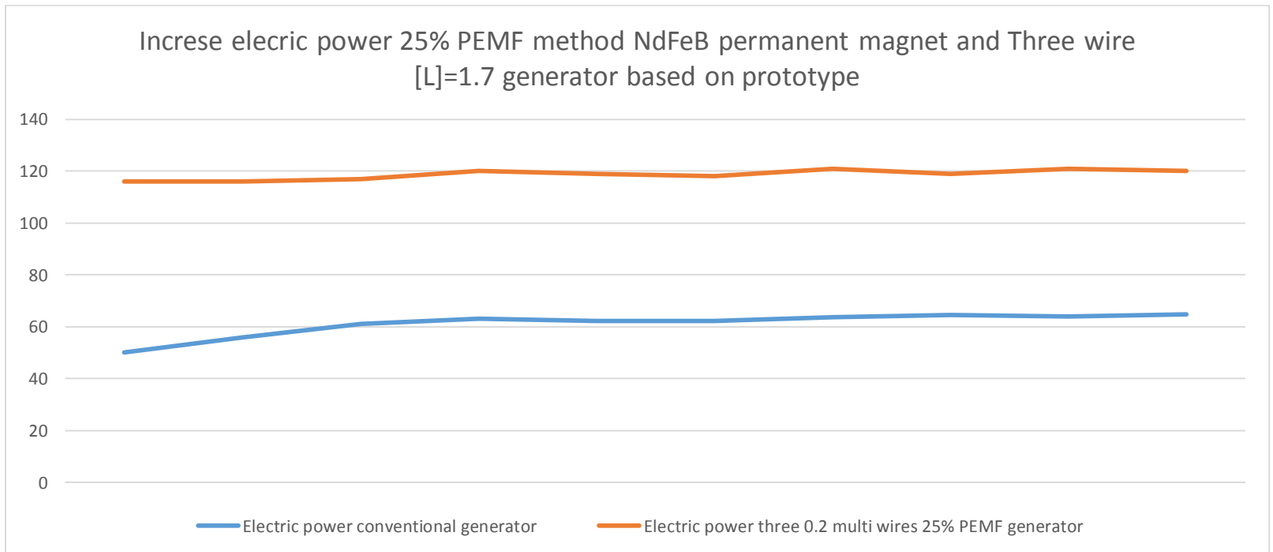
Application PEMF Method and Multi wires method in Alternator.

There are four parts in Alternators induction such as stators exciter, rotors exciter, stators alternator and rotors alternator. In electric power production rotors exciter inducted by stators exciter and stators alternator inducted by rotors alternator. Multi wires method works in fluctuating current and PEMF method works in inducted area.

Rotation of rotor produce fluctuating electric current in electromagnetic induction on rotor exciter by exciter stator and stators alternator by rotors alternator, so multi wires method works in rotors exciter, stators exciter, rotors alternator and stators alternator, in all parts of alternator and PEMF method works in rotors exciter and stators alternator.







With 25% capacity NdFeB magnet of PEMF method increase 13,6% of potential difference, increase 69.3% of electric current and increase 90.9% of power than conventional generator with same parameter, thus in 100% Capacity NdFeB magnet PEMF will increase 363.6 %. Meanwhile to reach equal level of energy transformation in conventional technology today it is only by application super conductor. It means that there are high cost production and operation that allocated. Multi wires method generator produce higher electric power with equal rotation with conventional method with ease to applicate, compatible without increasing cost production and with PEMF and multi wires method will increase higher than multi wires method only but with adaptation design of generator.

Generator with PEMF (Potential Electro Motion Force) method

For Generator

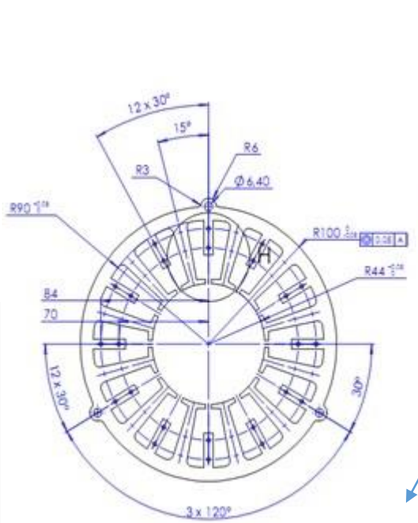
These methods are increase electrical energy output generator bigger than multi wires generator without increase scale, cost of production and input power in same shape factor of generator but with additional NdFeB magnet and adaptability design core stator and generator.

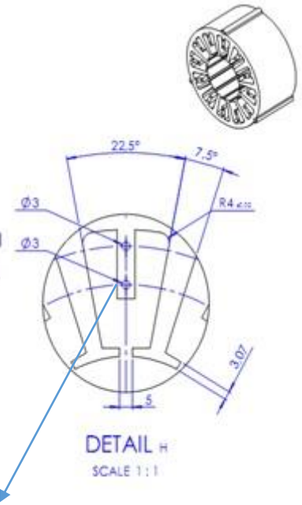
Increase of power production of generator with same Shape factor and input power than conventional generator that can substitute to decrease scale of generator to product equal power level, so the generator is more effective in energy than before

Electric current conventional generator = I

Electric current same shape factor with multi wires method = $L.I$

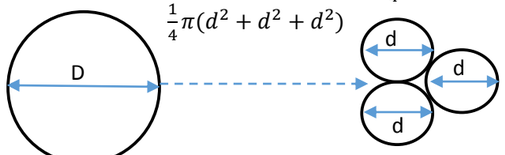
One BS Generator with [L] = 2 and 100% PEMF has equal output power with more than six conventional generators with adaptability wound scheme.





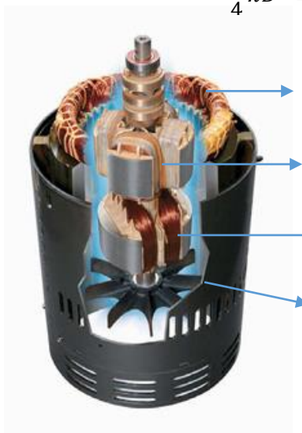
New part of stator generators core

Single big wire with diameter D to couple tiny wire with dimeter d in same size. Both wire with diameters D and d have the same size $\frac{1}{4}\pi D^2$ and



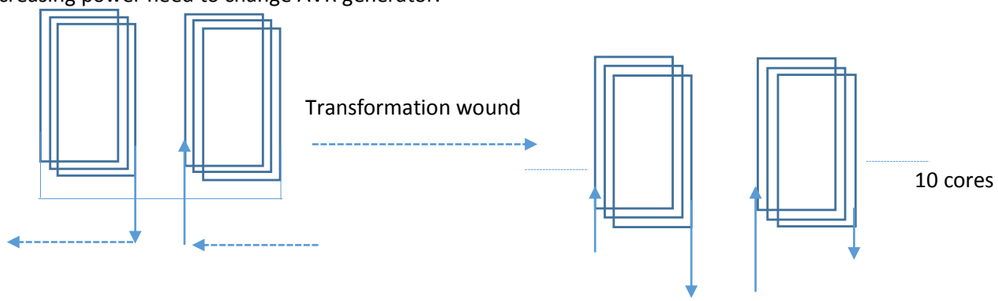
$$\frac{1}{4}\pi(d^2+d^2+d^2)$$

$$\frac{1}{4}\pi D^2 = \frac{1}{4}\pi(d^2+d^2+d^2)$$



Transformation wound ten series cores to ten shunt cores in all cores stator generator to reach same voltage output and with application multi wires method and PEMF method in each core rotor exciter and stator generator make it generator equal power output with 10 conventional generators with same shape factor.

Increasing power need to change AVR generator.



Multi wires method and 100% PEMF

Stator exciter usually in DC current, induct rotor exciter and does not inducted from another induction so make multi wires method and PEMF method do not work. Rotation rotor make rotor exciter inducted by stator exciter and with multi wires method with [L] =2 and 100% PEMF will increase electric power to rotor generator 5 times than conventional method. Increasing of electric power will increasing magnetic wave 5 times to induct stator generator.

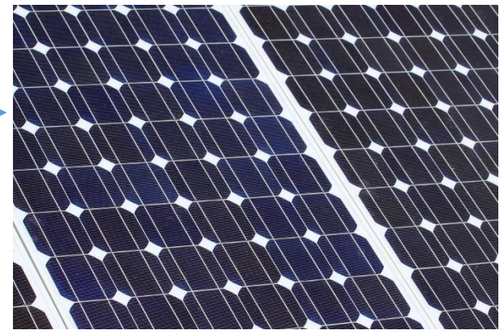
Explanation multi wires and PEMF method in generator

Multi wires method and 100% PEMF. From experiment 25% PEMF increase voltage ± 15% so 100% PEMF will increase 60% voltage and increasing ± 512% power just in exciter that All electric power will induct stator generator from rotor generator. With same [L] and level PEMF will increase 512% electric energy than conventional generator so totally increasing Is ± 1000% (ten times) that equal with 10 generators with same shape factor.

Innovation of PEMF (Potential Electro Motion Force) in Solar cell

Conventional method to produce electrical energy

PEMF (Potential Electro Motion Force) method to produce electrical energy



- Low and Unstable output energy production.
- Relatively high cost energy production, installation and operation compared with output of energy.

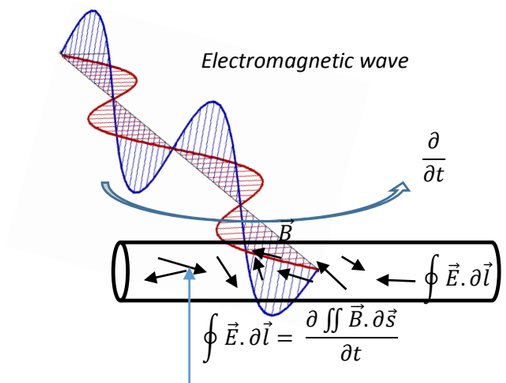
- These methods are increase electrical energy output solar cell without increase scale, cost of production and input power in same shape factor of solar cell.
  Increase of power production of solar cell with same Shape factor and input power than conventional solar cell that can substitute to decrease dimension of solar cell to product equal power level, so the solar cell is more effective than before.
- New technology that increase energy production, stable, compatible and low cost production and application.
- Profitable make it reasonable to applicate.

Files below explain PEMF (Potential Electro Motion Force) method in Solar cell technology, theory and application based on working prototype

PEMF (Potential Electro Motion Force) inSolar cell

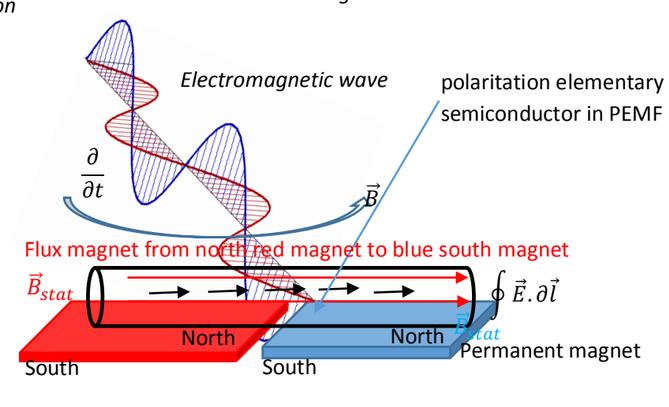
Static magnetic induction increase reactivity electron to move by dynamic magnetic induction in semiconductor. Parallelism atomic semiconductor (elementary magnet) increase potential different by increasing reactivity electron to move. Electro motion force in conventional electromagnetic induction is potential different in random polarity of atomic semiconductor while in PEMF method electro motion force is potential different in unidirectional polarity of atomic semiconductor. Illustrating below is electromagnetic induction in conventional and PEMF method with additional component of formula.

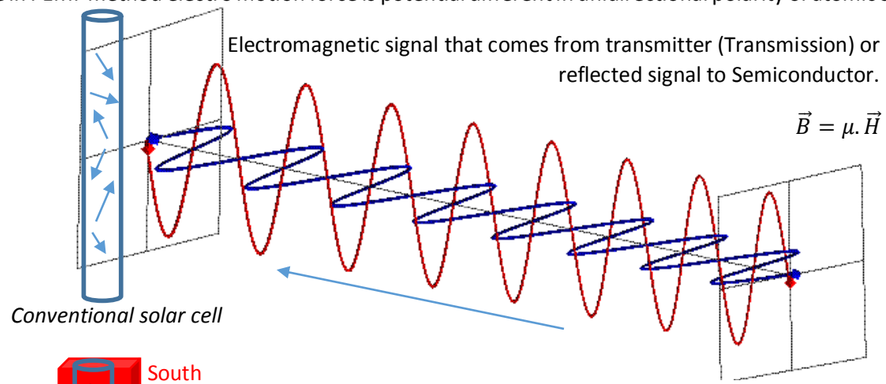
Conventional electromagnetic induction

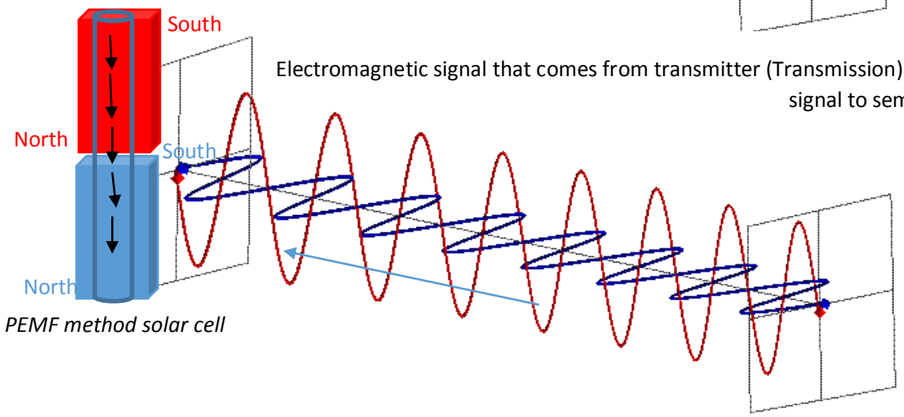


polaritation elementary semiconductor in conventional method that constantly change as *Neils Borh* atomic model.

PEMF method electromagnetic induction





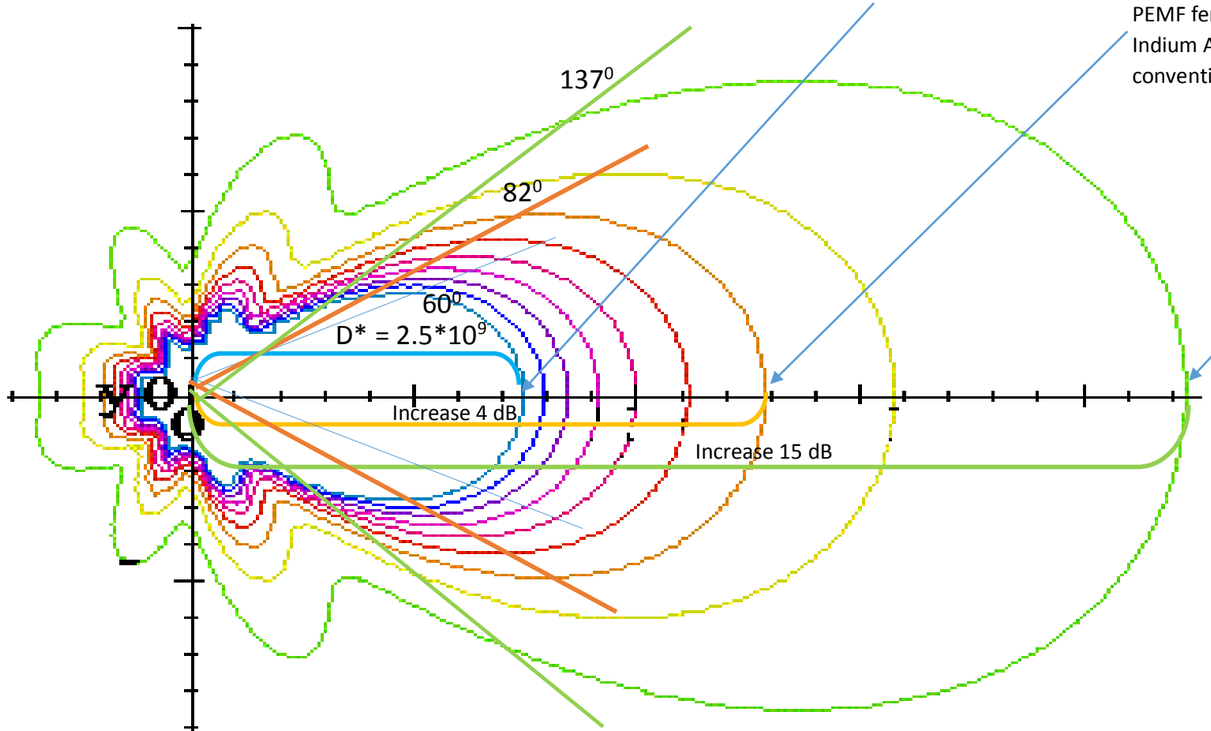


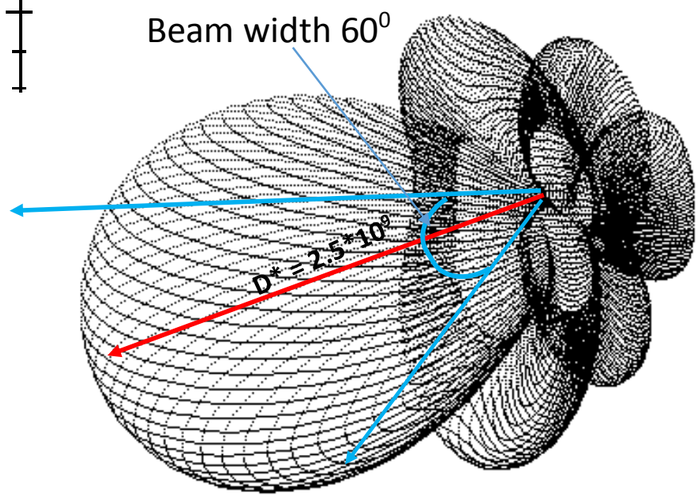
Result of Conventional and PEMF Semiconductor receive signal power test based on semiconductor test

With compare Conventional photo detector and PEMF photo detector in same parameters. PEMF method will increase sensitivity of Photo detector to sense electromagnetic signal. Increase sensitivity in photo detector means are increasing gain or directivity and also increasing beam width and possible in increase bandwidth of band frequencies. Table below explains increasing sensitivity sample photo detector Si (Silicon),D*= $2.5*10^9$, Indium Arsenide Antimonide (InAsSb) and Indium gallium Arsenide (InGaAs),D*=$1*10^{10}$ with 0.7 µm – 5.5 µm wavelength (fire detection area), 20 meters and 40 meters max range detection and 60^0 beam width that based on working prototype.

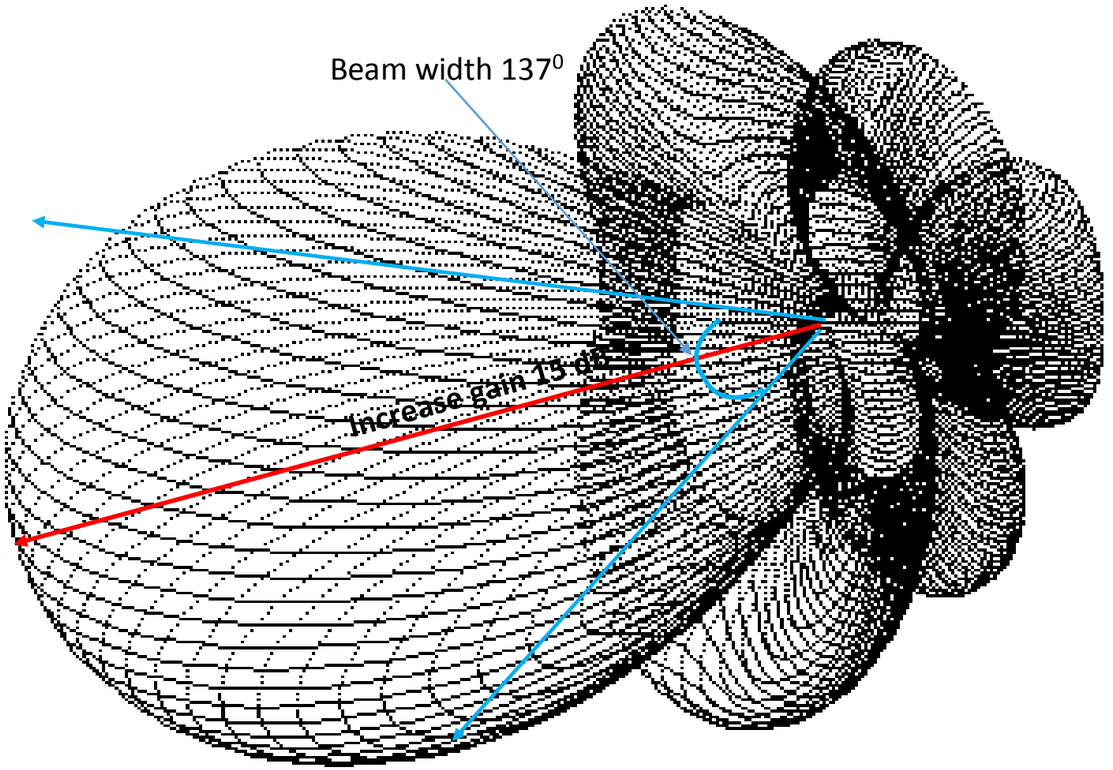
		Conventional photo detector	PEMF method Photo detector with Ferrite magnet 0.4 Tesla	PEMF method photo detector with NdFeB magnet 1.4 Tesla
Si Detector	Directivity	$2.5*10^9$	$6.5*10^9$	$1.4*10^{10}$
	Increasing Gain	0 dB	4 dB	15 dB (500%)
	Beam width	60^0	82^0	137^0
InGaAs / InAsSb	Directivity	$1*10^{10}$	$2.6*10^{10}$	$5.6*10^{10}$
	Maximum range detection	0 dB	4 dB	15 dB
	Beam width	60^0	82^0	137^0

Comparison of Photo detector range detections Pattern





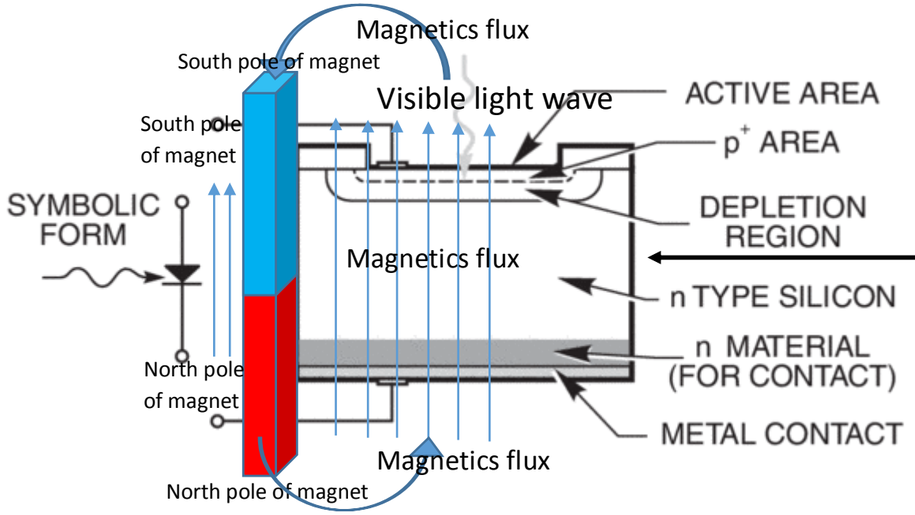
Conventional InGaAs (Indium Gallium Arsenide) or Indium Arsenide Antimonide (InAsSb) radiations pattern with beam width 60^0 and D* = $2.5*10^9$



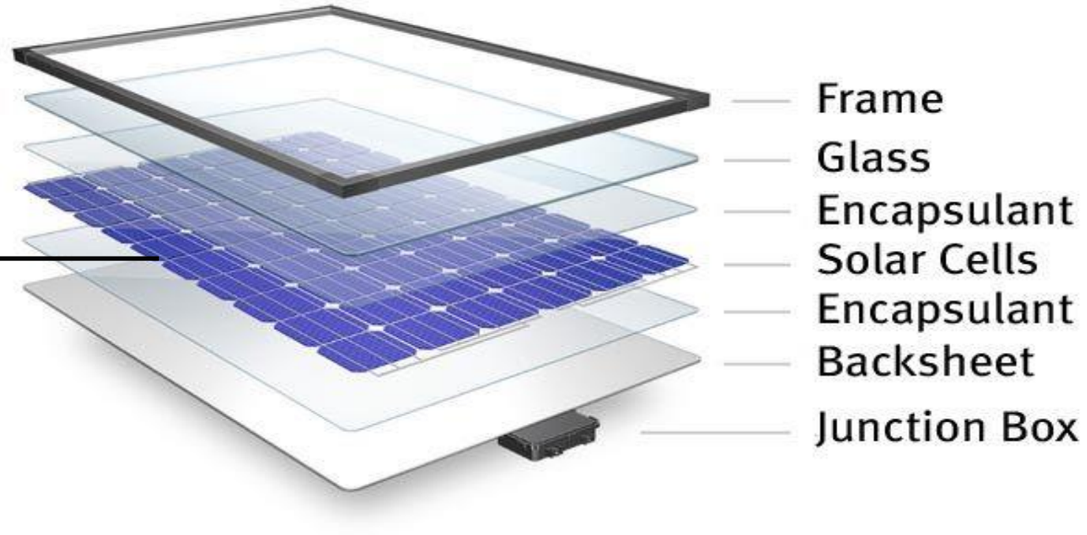
PEMF NdFeB magnet InGaAs (Indium Gallium Arsenide) or Indium Arsenide Antimonide (InAsSb) radiations pattern with increasing beam width 137^0 (128%) and increase 15dB of Gain. Increase 15 dB mean are increasing 500% photovoltaic power and increasing beam width will increase 128% angle of sense.

Application PEMF Method in Solar cell

Main idea of PEMF method is inducts magnetic flux in the same direction with electron flow in semiconductor. Magnetic flux direction is from north pole to south pole and electron flow is opposite direction with electric current in semiconductor Solar cell.

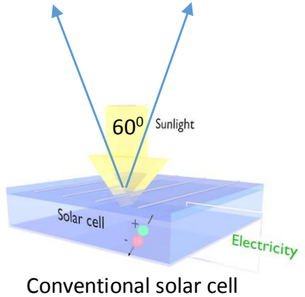


Construction photodiode solar cell in PEMF

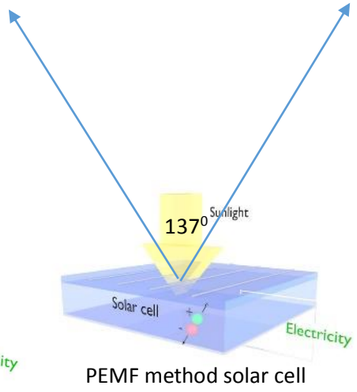


Solar cell with PEMF (Potential Electro Motion Force) method

These methods are increase 15 dB energy output of solar cell and increase beam width 128% of angle of sense bigger than conventional solar cell without increase scale, cost of production and input power in same shape factor of solar cell but with additional NdFeB magnet and adaptability design of Photo diode.
Increase of power production of solar cell with same Shape factor and input power than conventional solar cell that can substitute to decrease dimension of solar cell to product equal power level, so the solar cell is more effective in energy and dimension than before.

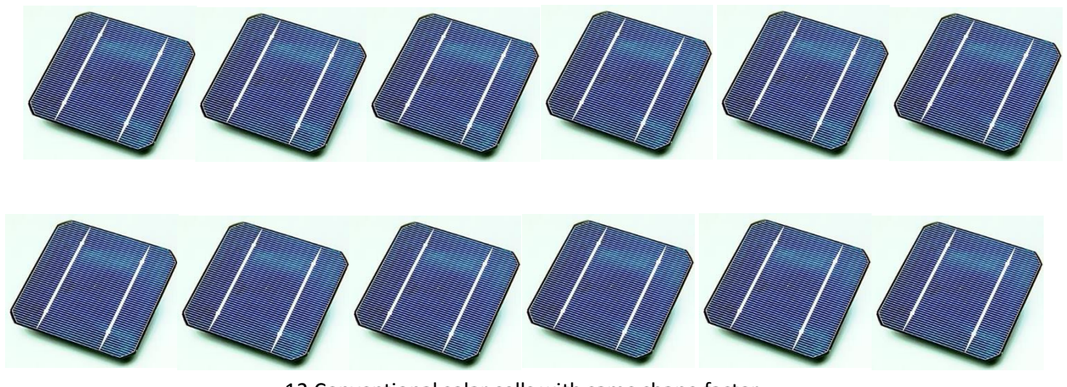


Conventional solar cell



PEMF method solar cell

Single PEMF method solar cell with 1.4 Tesla NdFeB magnet

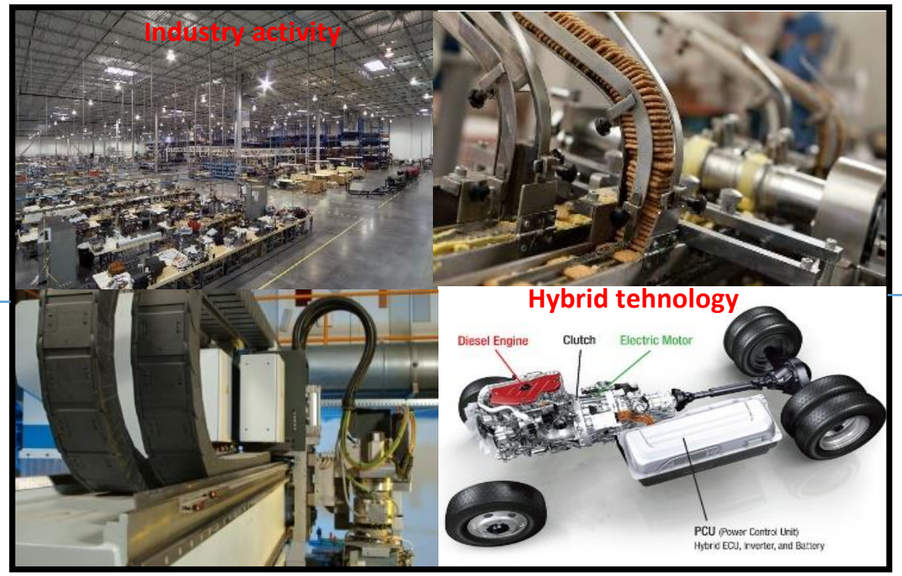


12 Conventional solar cells with same shape factor

With Increase 500% output power and increase 128% angle of sense so Single PEMF method solar cell with 1.4 Tesla NdFeB magnet has electric output power more than 12 Conventional solar cells with same shape factor or with this technology may to decrease 92% of solar cell dimension.

Innovation of Multi wires method generator to increase output power or decrease dimension electric motor

Conventional method
electric rotating machine



Multi wires method
electric rotating machine

- High input.
- Relatively high cost energy consumption, installation and operation compared with output of energy.

- Increase multi times velocity of rotation and torque with same input power that can substitute to decrease power input to reach same rotation with conventional electric motor. Decrease production cost, decrease operational cost of electric motor, decrease heat, decrease weight or it could make longer life of battery, Compatible in application and more advantages
- Increase technology of electric motor will increase quality production of industry.
- Increase technology of electric motor will decrease operations cost and increase profit of industry.
- Increase technology will increase quality of human life and environment.

Files below explain Multi wire method technology, theory and application based on working prototype

Innovation of multi wires method to increase rotation and torque of electric motor

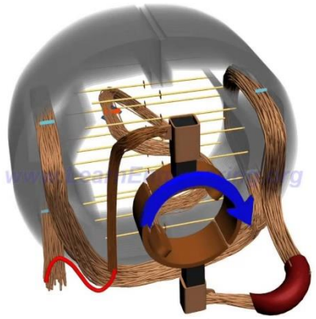
Abstract

Inside of electric motor occurred undue obstruction electric current in transform of energy. This obstruction occurred by incommensurate electron figure that flow between area that electron flow in wire and these phenomena caused by skin-effect. Increase flows area by innovative multi wires method will decrease electrons obstruction and heat so the rotation of electric motor will increase because of better transform of energy. In rotation rotor toward stator of all electric motor coursed by fluctuation frequencies pattern electric current in wound of rotor or stator. Fluctuation of electric current generate skin-effect in wire and induce decreasing area that electron flow thus multi wires method to solve this trouble. The grade of optimization is proportionate the grade of distraction of electric flows.

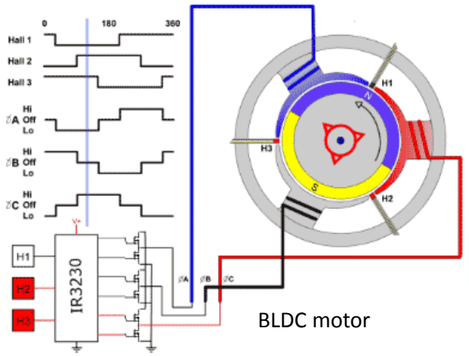
The experiment and result increase of torque multi wires method electric motor prototype

Rotation rotor electric motor has similar form of electric current that flow in wound stator or rotor that it is the main part.

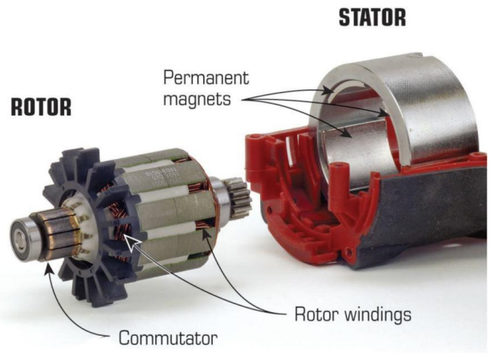
Electric current in electric motor and multi wire method



Universal motor



BLDC motor



PMDC motor

Universal motor

In AC current, fluctuation frequencies pattern electric current in wound rotor and stator generate universal motor rotation but in DC current fluctuation frequencies pattern electric current just in wound rotor it caused by rotor rotation.

BLDC motor

In BLDC motor fluctuation frequencies pattern electric current generated by driver flow in stators wound generate it rotation.

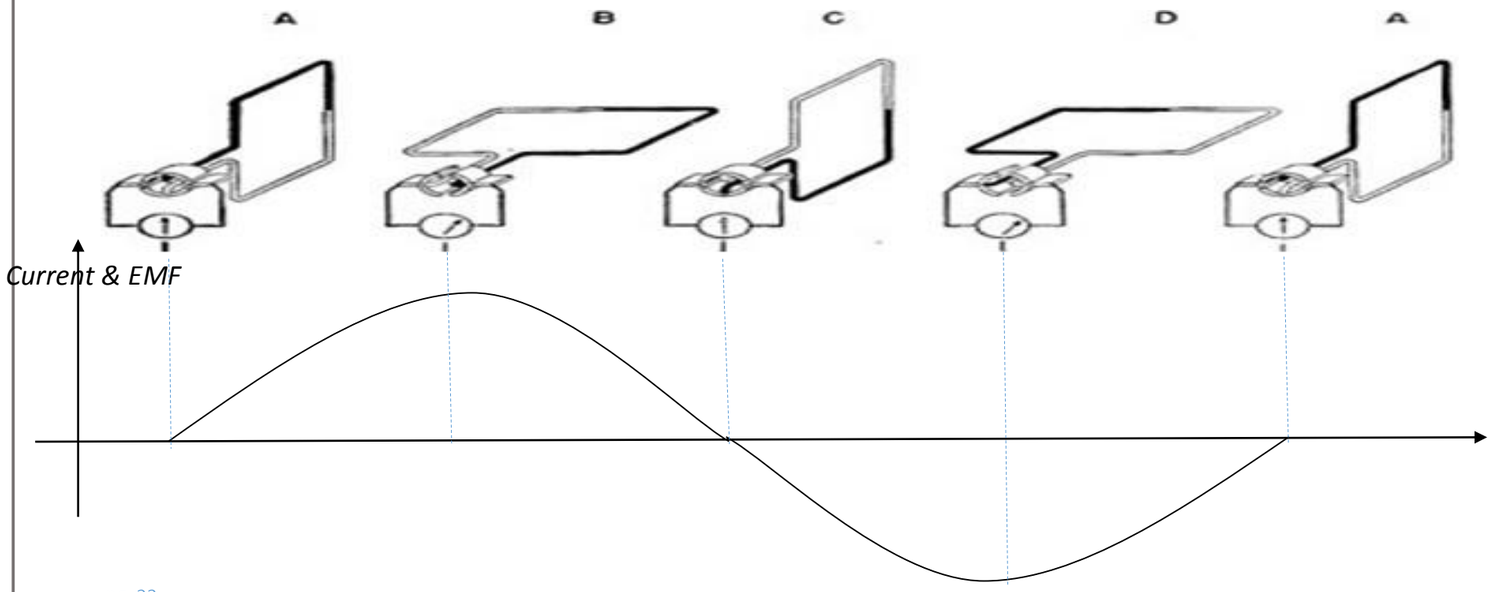
PMDC motor

In rotation PMDC motor, DC current will be fluctuated by rotation of rotor so frequencies pattern electric generated in it rotor caused by rotation of rotor.

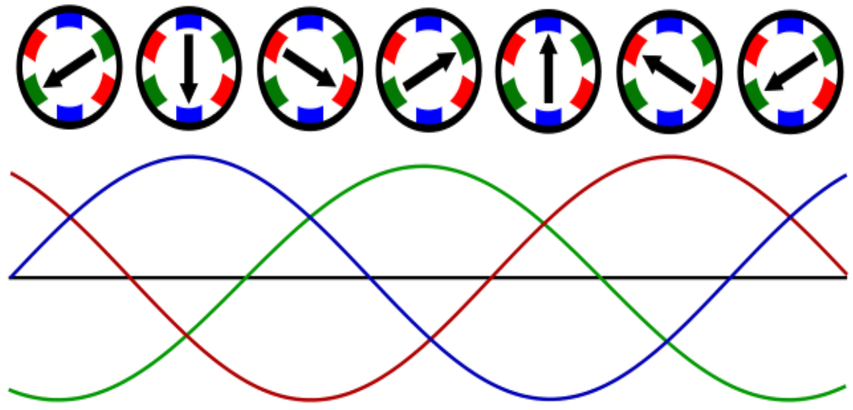
Induction motor

In induction motor fluctuation frequencies pattern electric current in wound stator generate rotation of rotor.

In all type of electric motor fluctuation frequencies pattern electric current in wound rotor or stator generate rotation.



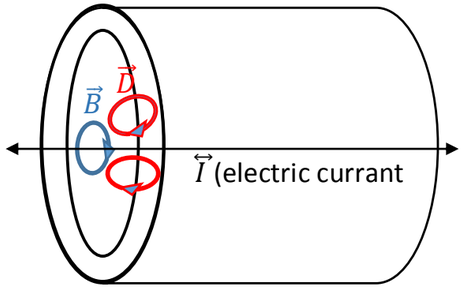
Electric current in stator produces magnetic wave that induct rotor of electric motor and fluctuating electric currents rotation magnetic wave in stator induct rotor to rotates.



Hysteria of magnetic wave

Caused of fluctuation frequencies pattern of electric current in wound wire generates Eddy current that push electrons flow to skin area of conductor electric motor.

Illustration of electric currant in wire.



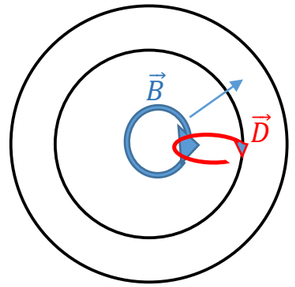
Wire / conductor

Based James Clerk Maxwell equation in electromagnetic induction:

$Q = \oint \vec{D}.\partial\vec{s}$ $\oint \vec{H}.\partial l = \frac{\partial \vec{D}}{dt}$ $\oint \vec{E}.\partial l = \frac{\partial \vec{B}}{\partial t}$

Fluctuating of electric current $\overleftrightarrow{I}(Q/t)$ generated fluctuating of magnetic field intensity $\vec{H}$.

Fluctuating of Magnetic field $\vec{B} = \mu.\vec{H}$ generate looping flow Electric field $\vec{E}$ that source of Eddy currant. This hysteria induces skin-effect.

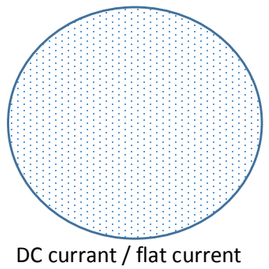


Skin effect formula δ (m) = $\sqrt{\frac{1}{\pi.f.\mu.\sigma}}$

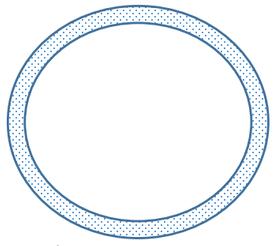
δ : skin depth (m) f : frequency of fluctuating current

μ : permeability of wire σ : conductivity of wire

From these phenomena caused electron flow just in surface of wire as illustrated below. Blue dots represent electron flow of electric current.



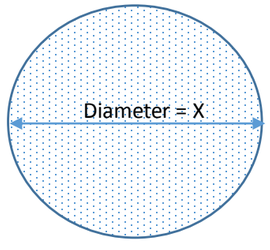
DC currant / flat current



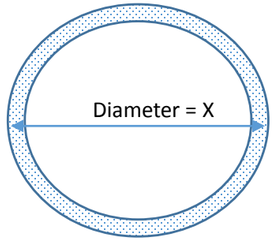
Fluctuating current

Multi Wires Method

Both wire have same dimension and have equal load but fluctuating current push all electron moves in surface of wire.

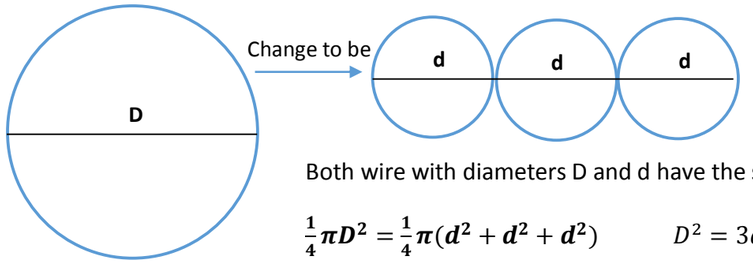


DC currant / flat current



Fluctuating current

These phenomena inhibit generates of magnetic wave to rotating rotor of electric motor and trigger heat in it. Multi wires method is the method that substitute single big wire to multi tiny wires that has same size to increase electrons flow.



Single big wire with diameter D change to be couple tiny wires with dimeter d in same size. Conventional electric motor using single big wire in one coil but multi wires method substitute single big wire to multi tiny wires with same all shape factor.

Both wire with diameters D and d have the same size $\frac{1}{4}\pi D^2$ and $\frac{1}{4}\pi(d^2+d^2+d^2)$

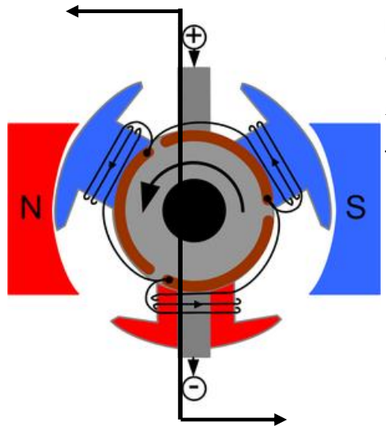
$\frac{1}{4}\pi D^2 = \frac{1}{4}\pi(d^2+d^2+d^2)$ $D^2 = 3d^2$ If D = 0,35mm so d = 0,2mm

The circumference of wire is area that electron flow. In wire D has πD = 0,35π mm and in wire d has 3πd = 3*0,2π = 0,6π mm of circumference.

No	Diameter (mm)	Extent of wire	Size of wire /wires	Circumference of wire
1	0.35	1	0,096 mm²	0.35π mm
2	0.25	2	0,096 mm²	0.5π mm
3	0.2	3	0,096 mm²	0.6π mm

If [L] is the factor of increasing discretion electron flow is proportional increasing of circumference in same size based on experiment. [L] factor of increasing of discretion for three wire 0.2 mm of diameter with single wire 0.35 mm diameter is $L = \frac{0,6\pi}{0,35\pi} = 1,7142$

Meanwhile L for single wire = 1. For single wire with 0,35 mm of diameter $L = \frac{0,6\pi}{0,6\pi} = 1.$



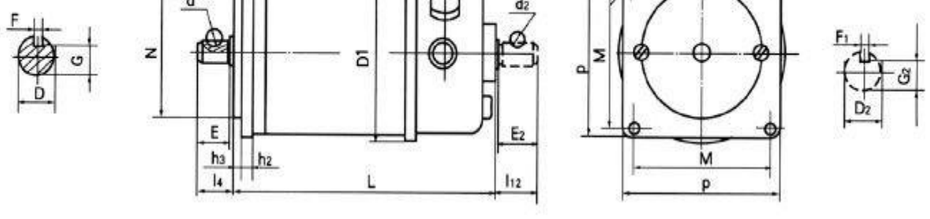
Brush electric motor increases torque and rotation that equal with factor of increasing discretion electron flow.

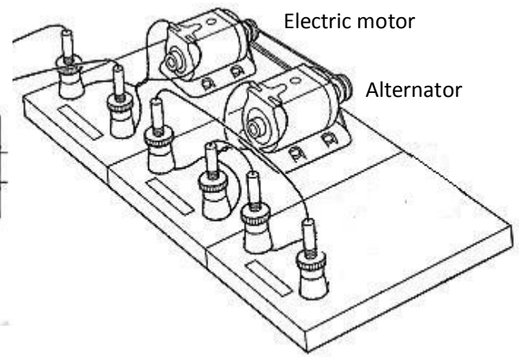
$Increasing\ rotation\ = rotation\ compared.L$

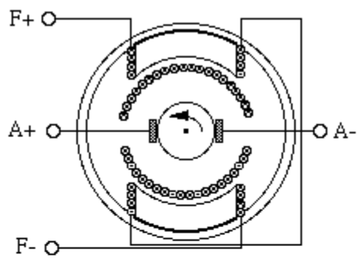
Testing of multi wires method was done in small brush electric motor it is because:

- Increasing of torque seen in increasing of rotation that increasing of torque is equality of time with increasing of rotation.
- Equality of electric current that flows in coils.
- Small in dimension with low efficiency that proof how effective this method if use in big or high efficiency of electric motor.
- It has single moment of couple that ease to convers in another type of electric motor.

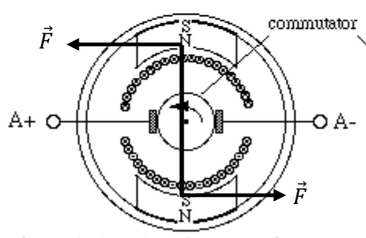
The experiment and result increase of torque with compare conventional and multi wires method electric motors prototype

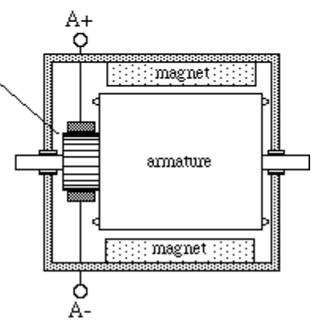






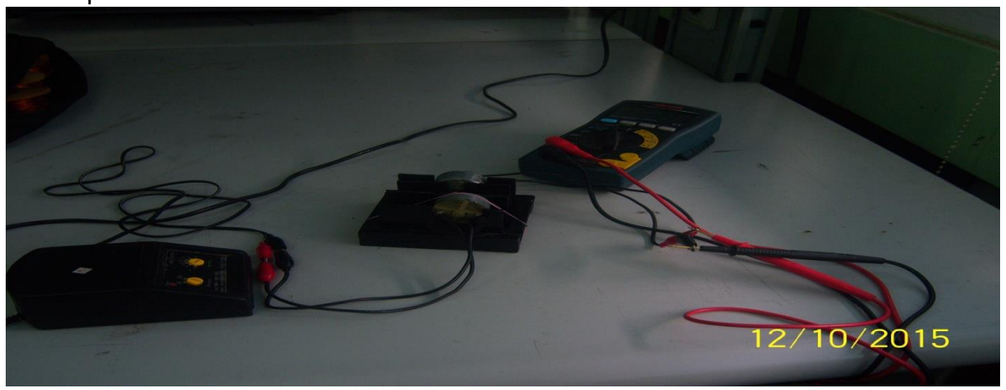
Single moment of couple





Single moment of couple has double arms of torque

The experiment did in October 12th 2015



Experiment did with small electric motor with efficiency ± 0.85 that compare single wire 0.35 mm of diameter 50 coils with double wires 0.25 mm of diameter 50 coils and triple wires 0.22 mm of diameter 50 coils. Rotation of electric motor known by frequencies of alternator that rotated by electric motor that tested and connected with same size gear.

Results of experiment

No	Electric motor with single 0.35 mm (RPM) 3 volt	Electric motor with double 0.25 mm (RPM) 3 volt	Electric motor with triple 0.2 mm (RPM) 3 volt
1	10.200	12.400	27.340
2	11.920	12.880	24.740
3	8.800	12.600	29.000
4	9.260	14.200	41.620
5	10.940	14.880	48.620
6	9.540	12.580	59.620
7	7.760	12.560	44.620
8	7.840	13.040	38.680
9	8.660	12.340	38.540
10	9.540	13.840	43.400
Mean	***9.546***	***13.132***	***39.618***

No	Electric motor with single 0.35 mm (RPM) 4.5 volt	Electric motor with double 0.25 mm (RPM) 4.5 volt	Electric motor with triple 0.2 mm (RPM) 4.5 volt
1	27.600	46.880	100.640
2	40.260	45.460	106.400
3	33.440	54.780	95.480
4	39.120	51.480	104.600
5	42.820	52.780	103.000
6	44.680	52.620	106.000
7	30.080	51.480	101.200
8	29.420	55.220	106.400
9	26.840	50.600	95.200
10	40.780	56.220	127.000
Mean	***35.504***	***51.752***	***104.592***

	Diameter (mm)	Extent of wire	Size of wire /wires	Circumference of wire	[L]
1	0.35	1	0,096 mm^2	0.35π mm	1
2	0.25	2	0,096 mm^2	0.5π mm	1.4
3	0.2	3	0,096 mm^2	0.6π mm	1.7

$Torque = \frac{1}{2} I \frac{\partial \omega}{\partial t}$ with almost equal of time of each electric motor to reach peek of rotation so increase torque is equal with increase peek of rotation.

$Power = M.\omega \; or \; \tau.\omega$

I = Moment of inertia M= Moment of couple T = Torque ω= velocity of rotation

*Increase of torque and rotation ≈ [L]*Number Arms of torque*

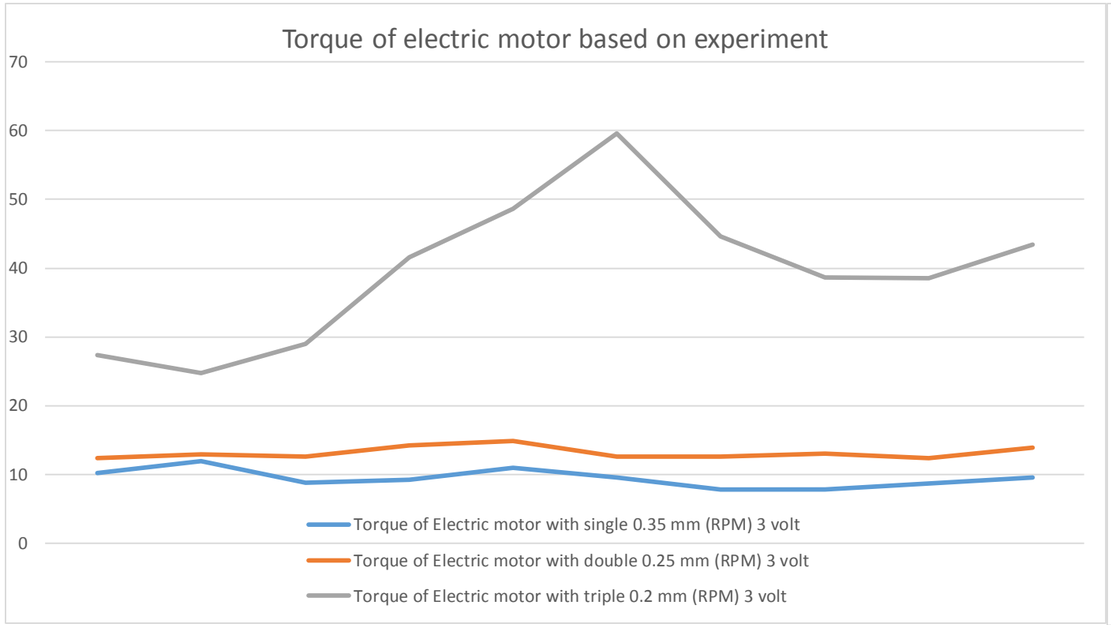
*Increase of torque ≈ [L]*2*Number Moment of Couple*

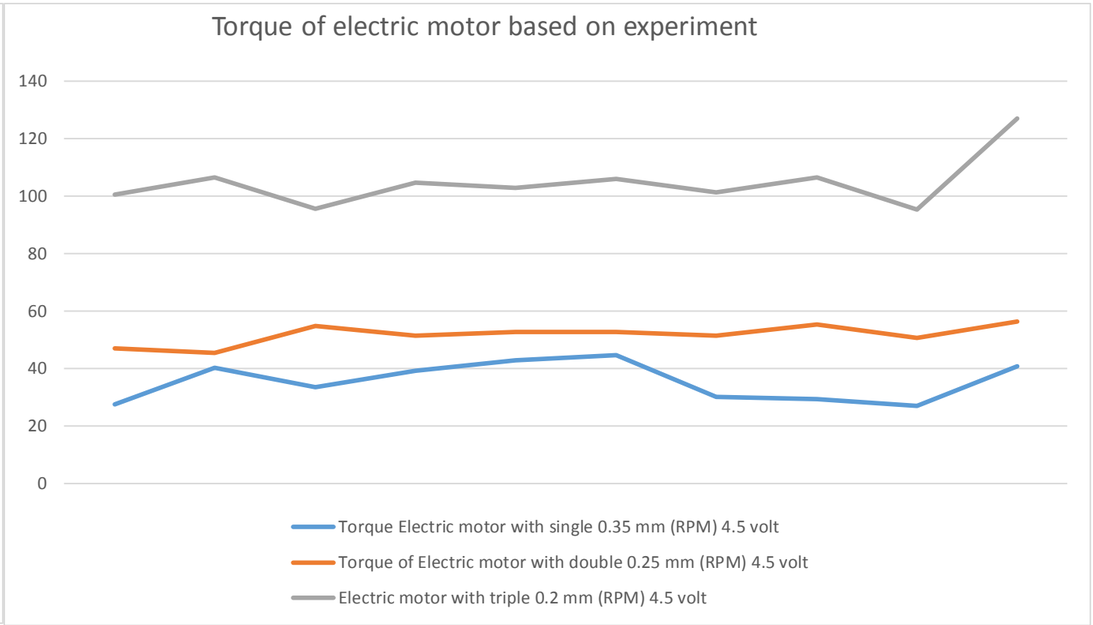
With knows wound scheme and size of coils wire increase of torque will obtainable

Equations Conversion	Conventional electric motor	Multi wires electric motor
Magnetic wave from 4 Maxwell equations	$\oint \vec{H}.\partial\vec{l} = \int \vec{J}.\partial\vec{s} + \frac{\partial \oint \vec{D}.\partial\vec{s}}{\partial t}$	$\oint \vec{H}.\partial\vec{l} = \int \vec{J}.\partial\vec{s} + L\frac{\partial \oint \vec{D}.\partial\vec{s}}{\partial t}$
Torque	$number\ of\ arm.\vec{F}.r$	$Number\ of\ arms.L.\vec{F}.r$
Rotation	ω	$L.number\ of arm.\omega$
Energy	$\frac{1}{2}I\omega^2$	$\frac{1}{2}I(L.number\ of\ arm.\omega)^2$

Based on experiments table single moment of couple electric motor, increase of rotation and torque 2 wires multi wires method is 145.7 % and increase torque and rotation 3 wires multi wires method is 294.6 %.

Chart increase torque prototype of electric motor based on experiment

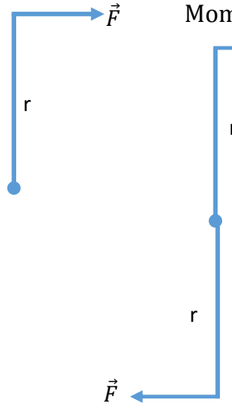




Multi wires method in 3 phase Induction motor

At least there are 3 moments of couple or 6 arms of torque in 3 phase induction motor.

Torque of electric motor $= \vec{F}.\mathrm{r}$



Moment of couple electric motor (2 arms) $= (\vec{F}.\mathrm{r}) + (\vec{F}.\mathrm{r}) = 2(\vec{F}.\mathrm{r})$

In tachometry and torque measurement of electric motor moment of couple represent electric motors torque its self that consist of 2 arms of torque. The Forces are always in pursuit rotation of magnetic wave in stator with $Rotation(Rpm) = 120\frac{Frequency\ of\ wave}{number\ of\ poles}$ sometimes rotor legs in synchronize rotation magnetic in stator so increase of force will decrease rotors legs. Magnetics Forces of conventional electric motor = $\vec{F}$ and Magnetics Forces same shape factor with multi wires method = $L.\vec{F}$. Torque (Moment of Couple) of conventional electric motor = $number\ of\ arms.\vec{F}.r$ and Torque (Moment of Couple) same shape factor with multi wires method = $Number\ of\ arms.L.\vec{F}.r$.

In induction (Brushless) electric motor increase of magnetics force will decreasing legs of rotor and is detected just in increase of torque but In brush electric motor same increase of magnetics force will increase of torque are detected by increasing of rotation. Increase of torque is equal in increasing of rotation in equality of time and based on expetiment of multi wires method has equal time to reach peek of rotation with conventional method.

Innovation PEMF method and multi wires method in electromagnetic induction to decrease input power in induction motor applications

For electric motor (All kinds of electric motor)

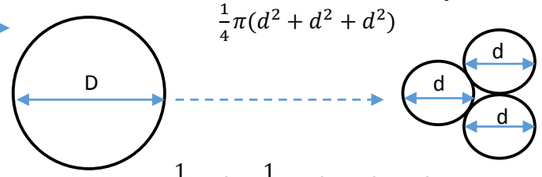
Multi wire method can increase rotation or torque on All kinds of electric motor without increase scale and input power.

Electric motor with multi wire method can increase multi times velocity of rotation and torque with same input power that can substitute to decrease power input to reach same rotation with conventional electric motor, so this method is more efficient and green than conventional method.

This method can decrease production cost, decrease operational cost of electric motor, decrease heat, and more advantages.

Application multi wires method with substitutes single big wire to couple small wires in same size.

Single big wire with diameter D to couple small wires with dimeter d in same size. Both wire with diameters D and d have the same size $\frac{1}{4}\pi D^2$ and $\frac{1}{4}\pi(d^2+d^2+d^2)$



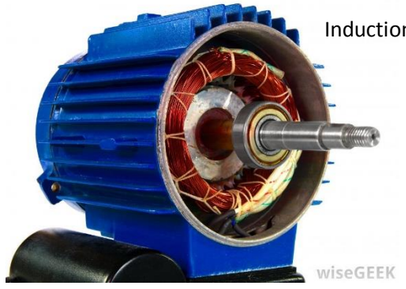
$$\frac{1}{4}\pi D^2 = \frac{1}{4}\pi(d^2+d^2+d^2)$$

Decrease input power of electric motor

To production same and equal torque, same and equal output power multi wires electric motor with conventional motor it can decrease input of electric motor. If torque1 = torque conventional electric motor and torque2 = torque multi wires motor so: $torque1 = torque2 \qquad r.F_1 = L.r.F_2$ with same and equal dimension and output power, so : $F_1 = L.F_2 \quad F_2 = {}^{F_1}/_{L}$

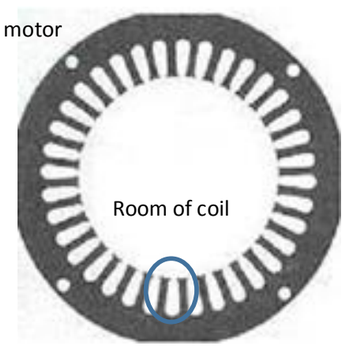
For examples substitute single 0.4 mm diameter wire to four 0.2 mm diameter wire have Factor increasing = 2 that make reducing 50% of input power and decrease operational cost.

Explanation multi wires method in induction motor in decreasing decrease cost operation.



Induction motor

Decreasing of input power = [L]



For example if one big email wire 0.4 mm of diameter can substitute to 4 of 0.2 mm wire but in this option is use 2 of 0.2 mm wire and adds ${}^{4}/_{2}$ or (2) count of coil of stator than count before. Increasing count of coil give chance to decrease electric current of input power be ${}^{2}/_{4}$ and [L] factor of increasing discretion of electric flow of two 0.2 mm wire than single 0.4 mm wire = 1 so with same of torque. With substitute single 0.4 mm of wire to two 0.2 mm wire give more room coil in stator ± 50% so adds count of coil or 4/2 (2) two times count of coil than count before to reach equal torque. This option will decrease operational cost 50% and that make costumer more interest. Decreasing input power of electric current must change electric motor controller or driver to driver or controller that has match current.

New innovations PEMF and Multi wires method Theories

PEMF method is new innovation method to increase reactivity electrons move in electromagnetic induction with magnetic flux. Multi wires method is new innovation method to increase quantity electrons flow in fluctuating electric current. PEMF method works in electromagnetic induction and Multi wires method works in fluctuating electric current so PEMF and multi wires method will increase energy production.

Increasing energy and power production in transformation energy of generator and Solar cell with compare conventional method and (Multi wires + PEMF Method) in tables below.

Conventional electric generator and Multi wires electric generator

Equations Conversion	Conventional Generator	Multi wires Generator
Electromagnetic induction from 4 Maxwell equations	$\oint \vec{E}.\partial\vec{l} = \frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}$	$\oint \vec{E}.\partial\vec{l} = \frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}$
Electric current	$\frac{\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}}{Impedance}$	$L.\frac{\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}}{Impedance}$
Electric power	$\frac{\left(\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}\right)^2}{Impedance}$	$L.\frac{\left(\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}\right)^2}{Impedance}$

Conventional electric generator and PEMF and Multi wires electric Generator

Equations Conversion	Conventional Generator	Multi wires and PEMF Generator
Electromagnetic induction from 4 Maxwell equations	$\oint \vec{E}.\partial\vec{l} = \frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}$	$\oint \vec{E}.\partial\vec{l} = \frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}$
Electric current	$\frac{\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}}{Impedance}$	$L.\frac{\frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}}{Impedance}$
Electric power	$\frac{\left(\frac{\partial \oint \vec{B}.\partial\vec{s}}{\partial t}\right)^2}{Impedance}$	$L.\frac{\left(\frac{\partial(\iint \vec{B}.\partial\vec{s} + \iint \vec{B}_{stat}.\partial\vec{s})}{\partial t}\right)^2}{Impedance}$

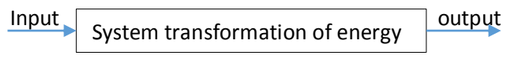
Based on working prototype of experiment there are amount of increasing of electrical current production $L.\left(K.\frac{\phi_{stat}}{Impedance}+1\right)$ $\left(\frac{Amp}{s}\right)$ in PEMF and Multi wires generator.

There are increasing of energy production amount (L) in multi wires.

With increasing technology of electric generator and solar cell will increase energy production.

Innovation Multi wires method and PEMF method compatible with all kinds of generator and Solar cell with ease to applicate give much advantages to industry, financial, social and environment.

PEMF and Multi wires method in system of energy transformation.



Conventional generator: $\frac{Output}{Input} < 1$

PEMF and multi wires generator: $\frac{Output}{Input} = L\left(\frac{\phi_{stat}}{\phi_{din}}+1\right)$

$with\ potential\ increase\ electric\ induction = L.\left(K.\frac{\phi_{stat}}{Impedance}+1\right)$

Multi wires generator: $\frac{Output}{Input} = L$

L = Multi wires factor K = PEMF factor

ϕ_{stat} = static magnetic flux that generated PEMF method

ϕ_{din} = dynamic magnetic flux in electromagnetic induction