

CLAIMS

1. A stator core for power generation by magnetic or electromagnetic induction,
comprising
a nucleus; and
5 a wire, wound around said nucleus,
wherein the wire is wound towards a winding direction such as to form a plurality of
wire intersections.
2. The stator core of claim 1, wherein each wire intersection forms two pairs of opposite
10 angles, each angle of the first pair denoted as p and each angle of the second pair denoted as q ,
wherein p faces generally away from the winding direction and q faces generally along the
winding direction.
3. The stator core of claim 2, wherein the angle p is preferably 90 degrees.
- 15 4. The stator core of any of claims 1–3, wherein the nucleus is non-magnetizable.
5. The stator core of claim 4, wherein the nucleus is an air core.
- 20 6. A stator for power generation by magnetic or electromagnetic induction, comprising
at least one stator core; and
a receptacle for holding the stator core,
wherein the stator core comprises a nucleus; and a wire, wound around said
nucleus, and
25 wherein the wire is wound towards a winding direction such as to form a plurality
of wire intersections.
7. The stator of claim 6, wherein the nucleus is non-magnetizable.
- 30 8. The stator of claim 6 or 7, wherein the receptacle has a substantially symmetric shape.

9. The stator of any of claims 6–8, wherein the receptacle is formed of an electrical insulation material.

10. The stator of any of claims 6–9 for generation of one or more electricity phases,
5 comprising a plurality of stator cores, wherein the number of such plurality of stator cores is a multiple of the number of electricity phases.

11. The stator of claim 10, wherein the receptacle is configured to hold the plurality of stator cores such that the positions of stator cores are evenly distributed.

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12. The stator of claim 10 or 11, wherein the stator cores are electrically connected in pair, pairs, or an odd number.

13. A system for power generation by magnetic or electromagnetic induction, comprising
15 at least one rotor, configured to be capable of rotating around an axis and comprising at least one magnet and;
at least one stator, configured to be stationary and comprising at least one stator core,
wherein the stator core comprises a nucleus; and a wire, wound around said nucleus;
20 wherein the wire is wound towards a winding direction such as to form a plurality of wire intersections; and
said system being configured to receive mechanical energy for inducing the rotor to rotate around the axis.

25 14. The system of claim 13, wherein the nucleus is non-magnetizable.

15. The system of claim 13 or 14 for generation of one or more electricity phases, wherein the stator comprises a plurality of stator cores, and wherein the number of such plurality of stator cores is a multiple of the number of electricity phases.

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16. The system of any of claims 13–15 for generation of one or more electricity phases, wherein the rotor has a plurality of magnets, and wherein the number of such plurality of magnets is determined by rounding up the product of an expression:

$$\left(1 + \frac{1}{N_{EP}}\right) \times N_{SC} \quad \text{Formula (1)}$$

wherein N_{EP} is the number of electricity phases, and N_{SC} is the number of stator cores.

5 17. The system of any of claims 13–16, wherein the magnet and the nucleus have substantially the same cross-sectional dimensions.

18. The system of any of claims 13–17, comprising a plurality of stators.

10 19. The system of any of claims 13–18, comprising a plurality of rotors.

20. The system of any of claims 13–17, comprising a plurality of stators and a plurality of rotors, wherein such pluralities of stators and rotors are aligned coaxially, alternatingly, and free of a direct contact.

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