# An improvement of magnetic flux-linkage in electrical generator using the novel permanent magnet arrangement

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The partitioned stator permanent magnet generator (PS-PMG) is widely used as electrical generator due to its high flux-linkage, electromotive force (EMF), however the limitation of increasing flux-linkage of conventional PS-PMG is being reached due to the restricted area of flux-linkage circulation. Then, we proposed 2 novel structures of PS-PMG by using the dual rotor with co-axial core to improve the flux-linkage and EMF of the PS-PMG. It was found that the flux-linkage produced by the proposed structure is 18% higher than that of conventional PS-PMG existing in the literatures. The position of additional permanent magnets of the stator was found to be the reason for flux-linkage improvement since the flux-linkage is increasingly circulated through both armature windings. This flux-linkage enhancement causes 21% increment of EMF compared to the conventional PS-PMG under the same condition. The EMF produced by the proposed structure is classified in the high-value range of PMG.