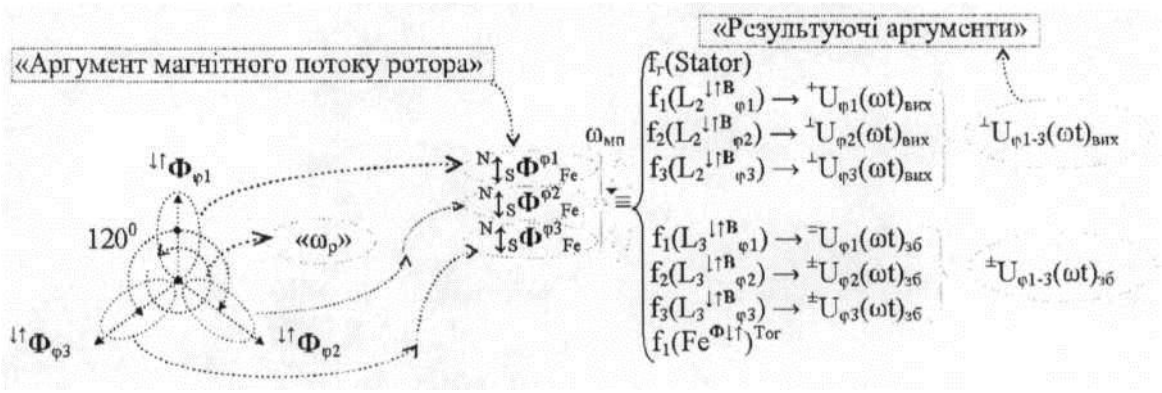
Device for activating resulting voltage arguments $^{\pm}U_{\varphi 1\text{-}3}(\omega t)_{вих}$ and excitation voltage energy arguments $^{\pm}U_{\varphi 1\text{-}3}(\omega t)_{зб}$ in a three-phase parallel-series structure of a toroidal generator $f_{1\text{-}3}(^{Tor}Gener^{U}{}_{\varphi 1\text{-}3})$ comprising a housing in which a ferromagnetic toroidal ring $f_1(^{Tor}Fe^{\Phi\downarrow\uparrow})$ made of electrical steel forming a magnetic core is located, on an outer surface of which inductance coils ïI-$f_{1-3}(L_2{}^{\downarrow\uparrow B}{}_{\varphi 1-3})_{вих}$ and $f_{1-3}(L_3{}^{\downarrow\uparrow B}{}_{\varphi 1-3})_{зб}$, are uniformly placed, each of which is made of copper wire, and which form a three-phase system and are connected to a contact system for supplying an excitation voltage according to the analytical expression



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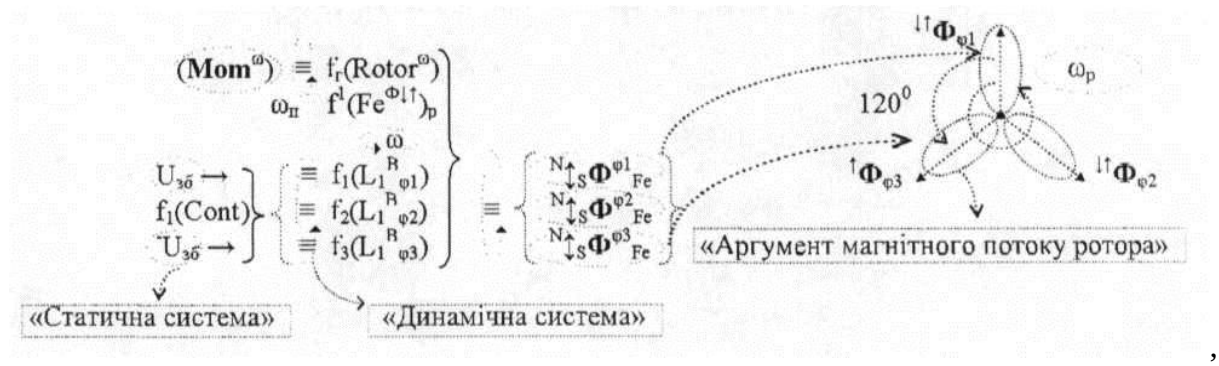
arranged such that during rotor operation they create magnetic fluxes $^{N}{\downarrow}_{S}\Phi^{\varphi 1}Fe$, $^{N}{\downarrow}_{S}\Phi^{\varphi 2}Fe$, and $^{N}{\downarrow}_{S}\Phi^{\varphi 3}Fe$ of three phases "φ_1", "φ_2" and "φ_3", shifted in space by an angle of "120°" relative to each other, and form "Resulting arguments" of output energy arguments of voltage $^{\pm\varphi 1\text{-}3}U(\omega t)_{вих}$ of the inductance coils $f_{1-3}(L_2{}^{\downarrow\uparrow B}{}_{\varphi 1-3})_{вих}$ and energy arguments of excitation voltage $^{\pm}U_{\varphi 1\text{-}3}(\omega t)_{зб}$ of the inductance coils $f_{1-3}(L_3{}^{\downarrow\uparrow B}{}_{\varphi 1-3})_{зб}$ according to a rotor structure $f_\gamma(Rotor^{\omega})$



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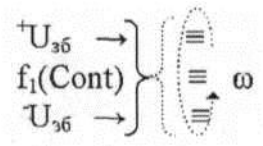
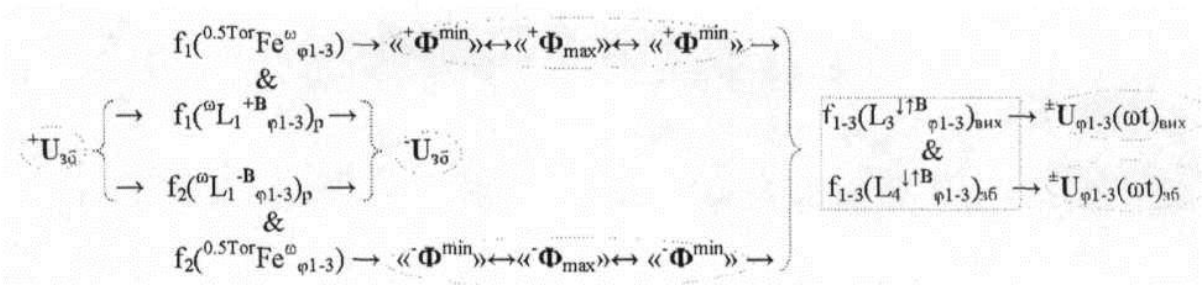
where $(Mom^{-\omega})$ is a torque of the rotor $f_\gamma(Rotor^{\omega})$ created by an external drive $f_1(Drive^{\omega})$;



- a contact system $f_1(Cont)$ containing conductive rings fixed on a rotor shaft and graphite brushes installed in brush holders that provide electrical contact between an excitation voltage source $^{+}U_{зб}$ and $^{-}U_{зб}$ and rotor windings $f_1(L_1{}^{B}{}_{\varphi 1})$, $f_2(L_1{}^{B}{}_{\varphi 2})$ and $f_3(L_1{}^{B}{}_{\varphi 3})$. The toroidal magnetic core $f_1(^{Tor}Fe^{\Phi\downarrow\uparrow})$ of the rotor consists of two half-rings rigidly connected to each other along an axis of rotation to form a common toroidal structure, and on an outer surface of each half-ring, three-phase inductance coils made of copper wire with an electrical insulation coating are uniformly placed. Wherein the coils are arranged at an angle of 120° relative to each other and fixed by insulating inserts; the contact system contains conductive rings fixed on the rotor shaft and

graphite brushes installed in brush holders of the housing, which provide a connection between the excitation voltage source and the rotor inductance coils $f_1\left({}^{\omega}L_1{}^{+B}{}_{\varphi 1-3}\right)_p$ and $f_2\left({}^{\omega}L_1{}^{-B}{}_{\varphi 1-3}\right)_p$ according to the analytical expression



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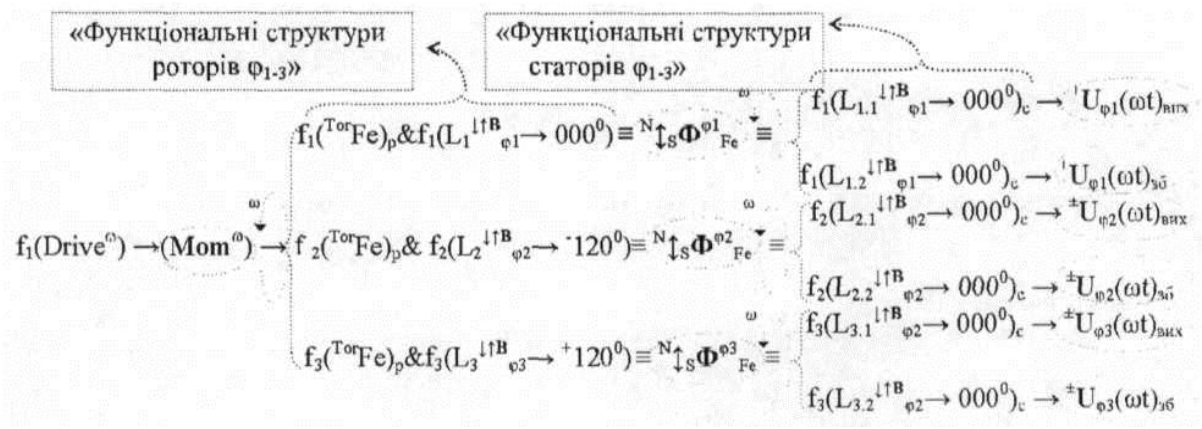
stator inductance coils are designed similarly to the rotor coils, arranged without spatial shift between phases and fixed in the housing made of a non-magnetic material; all electrical connections are made with insulated conductors; the device housing ensures fixation of rotor, stator, and contact system elements and has holes for ventilation and cooling. Wherein turns of functional structures of rotor inductances $f_1\left({}^{\omega}L_1{}^{+B}{}_{\varphi 1-3}\right)_p$ and $f_2\left({}^{\omega}L_1{}^{-B}{}_{\varphi 1-3}\right)_p$ in the three phases "φ_1", "φ_2" and "φ_3" of corresponding toroidal rotors are shifted by an angle of "120°" relative to each other according to an analytical expression of the form



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where $f_1(\text{Drive}^{\omega})$ is an external drive configured to transmit a torque (Mom^{ω}) of the rotation moment to the rotor shaft, which contains the toroidal magnetic core on which the three-phase inductance coils are located $f_1\left({}^{\text{Tor}}\text{Fe}\right)_p \& f_1\left(L_1{}^{\downarrow\uparrow B}{}_{\varphi 1} \rightarrow 000^{\circ}\right)$, $f_2\left({}^{\text{Tor}}\text{Fe}\right)_p \& f_2\left(L_2{}^{\downarrow\uparrow B}{}_{\varphi 2} \rightarrow {}^{-}120^{\circ}\right)$ and $f_3\left({}^{\text{Tor}}\text{Fe}\right)_p \& f_3\left(L_3{}^{\downarrow\uparrow B}{}_{\varphi 3} \rightarrow {}^{+}120^{\circ}\right)$, uniformly shifted in space by an angle of 120° relative to each other, and turns of functional structures of stator inductances $f_{1-3}\left(L_{1-3}{}^{\downarrow\uparrow B}{}_{\varphi 1-3} \rightarrow 000^{\circ}\right)_c$ in the three phases "φ_1", "φ_2" and "φ_3" are arranged without a shift relative to each other and are fixed in a common housing.