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Title	**Precessional transmissions with toothed gearings**
Authors	*Ion Bostan, Viorel Bostan, Maxim Vaculenco, Ion Bodnariuc, Valeriu Dulgheru, Sergiu Mazuru, Mihai Ţopa, Radu Ciobanu, Oleg Ciobanu, Nicolae Trifan, Malcoci Iulian, Dumitru Vengher, Valeriu Odainâi, Victor Pavelco, Alina Bregnova, Vasile Muntean.*
Institution	*Technical University of Moldova*
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Description EN	The precessional transmission contains a housing, in which are located a satellite wheel with two bevel gear crowns, a crank shaft and two central bevel gears, one fixed rigidly connected to the housing and another connected to a driven shaft, the teeth of the satellite wheel crowns is described by a concave circle arc of radius $r_a > r$ with the origin located on their axis of symmetry, so that the common points of the arcs G_{a_1} and G_{a_2} located in the mirror and spaced from each other according to the size of the radius r_a and the difference of the radii ($r_a - r$), also if the precession angle $\psi_k=0°$ the contact point G_{a_2} on the profile of the teeth of the satellite wheel coincides with the contact point k_1 on the profile of the wheel with the angular coordinate $\psi_{k_1} = 360°Z_2 / Z_1^2$ then the tooth profiles for the variable precession angle ψ_k in the range $0 \le \psi_k \le 360°Z_2 / Z_1^2$ the tooth profiles will not contact

each other, respectively, they will not be overloaded, and if the contact point G_{a_2} is located on the portion of the teeth of the central wheel with the variable angular coordinate in the range $0 \leq \psi_k \leq 360° Z_2 / Z_1^2$, only the portion of a pair of teeth proportional to the ratio $\cup G_{a_1} G_{a_2} / 2$ and $\cup k_0 k_1$, is excluded from the gearing, and thus a cavity is formed in the interdental space of the teeth of the conjugate wheels for $\psi_k = 0°$ the functions of „pockets" for the accumulation of lubricant and „cushions" for damping of the dynamic loads generated at the high angular speeds of the wheels and their possible execution errors.