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Development of Planetary Precessional Transmission with Multicouple Gear

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Abstract

Some problems of mechanical transmissions can be solved with special effects by developing new types of transmissions based on planetary precessional transmissions with multiple gear, that were developed by the authors. Absolute multiplicity of precessional gear (up to 100 % pairs of teeth simultaneously involved in gearing, compared to 5–7 %—in classical gearings) provides increased lifting capacity and small mass and dimensions. The article presents the analysis of the main structures of precessional transmissions, the theoretical aspects of gearing and design methodology.