Relativistic equations of motion of celestial bodies

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Recently, Damour, Soffel and Xu (DSX) have introduced a new formalism of relativistic celestial mechanics of systems of N arbitrarily composed and shaped, weakly self-gravitating, rotating, deformable bodies. This formalism is aiming at yielding a complete description, at the first post-Newtonian approximation, of the global dynamics of such N-body systems, the local gravitional structure of each body and provides a new theory of Relativistic astronomical reference frames. The DSX-formalism will be introduced and the Relativistic equations of motion will be discussed for massive bodies and for Earth's orbiting satellites. Special attention will be given to the problem of rotational motion; attempts to define quasi-rigid bodies and concepts like angular velocity or moments of inertia will be discussed.