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From Dinuclear System to Close Binary Cosmic Objects

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Applying the ideas from microscopic objects to macroscopic stellar and galactic systems, the evolution of compact di-stars and di-galaxies is studied in the mass asymmetry coordinate. The formation of stable binary systems is analyzed. The role of symmetrization of an initially asymmetric binary system is revealed in the transformation of gravitational energy into internal energy of stars or galaxies accompanied by the release of a huge amount of energy. For the contact binary stars, the change of the orbital period is explained by evolution to symmetry in mass asymmetry coordinates.

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