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EQUATORIAL STELLAR WINDS WITH COSMIC RAYS

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We reexamine the influence of the galactic cosmic rays on stellar winds. Owing to the rotation of the central star, magnetic field in the stellar wind forms a spiral structure. To solve the MHD equations with cosmic rays in this situation is rather difficult. We simplify the problem by focusing on the equatorial plane and assume azimuthal symmetry. The problem can then be described by two equations: the total energy integral and the cosmic ray energy equation (which is a second order ODE). We discuss the solution topology of the set of equations and provide a preliminary result.