CIRCULATION IN DIFFERENTIALLY ROTATING WHITE DWARFS*

(Abstract)

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The Eddington-Vogt circulation in differentially rotating white dwarfs has been investigated. Although these stars are nearly isothermal, rather high circulation velocities occur. The reason for this is the appearance of $\delta = (\partial \ln \varrho / \partial \ln T)_p$ in the denominator of the formula for the circulation velocity (c.f. the invited paper by Kippenhahn). With increasing degeneracy δ goes to zero and the circulation velocity increases. Estimates show that the angular momentum of the white dwarf is redistributed within its cooling time. This has to be taken into account if one considers the evolution of rapidly rotating degenerate objects.

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