

Generation of static solutions of a self-consistent system of Einstein-Klein-Gordon equations

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Abstract

A theorem is proved according to which a class of static solutions of a self-consistent system of Einstein-Klein-Gordon equations dependent on one arbitrary function is set in correspondence with a static solution of the Einstein equations with any given energy-momentum tensor T_{ij} . Two particular cases are examined as an illustration of this theorem. Methods of constructing the static solutions of a system of Einstein-Klein-Gordon equations with an ideal fluid energy-momentum tensor and a massive scalar field are indicated therein. © 1989 Plenum Publishing Corporation.

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