

Rigorous Static Solution, Corresponding to a Particular Form of the Fundamental Tensor, in Schrödinger's Unified Field Theory

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Résumé. Rigorous static general solution of Schrödinger's unified field equations in the 'para-form' have been obtained choosing the fundamental non-symmetric tensor in a particular form. The solution has not been free from singularities.

1. Introduction. Not very few attempts have by now been made to rigorously solve the field equations [1, 2] of Einstein's unified field theory. Such attempts have, for example, been made by Wyman [3], Bonnor [4, 5], Bandyopadhyay [6, 7], De Simoni [8], Ghosh [9, 10, 11], B. R. Rao [12], Takeno [13, 14, 15], Hlavatý [16], J. R. Rao [17], Vaidya [18]. These attempts cover both the 'weaker form' and the 'strong form' equations of the theory and furnish solutions (some of which are free from singularities *e.g.*, some solutions of Takeno, Hlavatý and Vaidya) under different assumed properties or conditions of the space-time continuum. In comparison the equations of the unified field theory suggested and studied by Schrödinger [19, 20, 21] have obtained much less attention. So far, only three attempts at solution have been made for these equations *viz.* by Papapetrou [22], Takeno [23] and Takeno, Ikeda and Abe [24]. It would therefore appear worthwhile to undertake more study of Schrödinger's field equations for rigorous solutions. That these equations deserve in their own right and also because, in what is known as the 'para-form', these equations constitute a generalisation of one formulation of Einstein's field equations.

In the present paper rigorous static general solutions for Schrödinger's 'para-form' equations have been found out, assuming space-time to have a particular