

Then Y_t is an unitary function of momenta and the main theorem is as follows.

Theorem 5: Let V be a smooth long-range potential with $\alpha > 1/2$ and let Y_t be as in (6). Then (i) the modified wave operators (which are isometries) $\Omega_{\pm} \equiv s\text{-}\lim_{t \rightarrow \pm\infty} V_t^* Y_t$ exist and

(ii) the intertwining property holds,

$$H\Omega_{\pm} = \Omega_{\pm} H_0.$$

The detailed proof is long, can be found in (ref. 3) and will not be repeated here. We shall instead observe that (i) implies that the total group V_t asymptotically behaves like Y_t instead of like the free evolution group $\exp(-iH_0 t)$, the part X_t providing the distortion. In the case of the Coulomb problem, this is familiar from solution of the stationary Schrodinger equation, and in this case

$$X_t = (4H_0)^{-1/2} \log|t| \operatorname{sgn} t. \quad (7)$$

The second problem, that of the asymptotic completeness for long-range scattering is very involved and for this we shall only refer to [references 9,10] and to the recent book (Perry)⁸.

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29 September 1986

ANNOUNCEMENTS

INSA LECTURES AWARDS FOR 1987—INVITATION FOR NOMINATIONS

Nominations are invited for the award of (i) Professor K. Rangadhama Rao Memorial Lecture, (ii) Dr G. P. Chatterjee Memorial Lecture, (iii) Dr Har Swarup Memorial Lecture, (iv) Professor Panchanan Meheshwari Memorial Lecture, (v) INSA-TS Tirumurti Memorial Lecture (vi) Dr Nitya Anand

Endowment Lecture and (vii) Professor B. D. Tilak Lecture Award.

Further particulars may be had from the Executive Secretary, Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi 110 002.