Prosenjit Singha Deo

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Prof. Prosenjit Singha Deo did his PhD from Institue of Physics, Bhubaneswar and then did a couple of post docs abroad before joining SN Bose Centre in 1999.

- I worked on scattering phase shift in low dimensional systems like quantum wires and explored its connection to negativity of partial density of states.
- Also worked on spontanous symmetry breaking in quantum systems

We have shown that spontanous symmetry breaking is possible in a quantum many body system wherein the ground state develops into a crystal like charge and spin density wave with well defined rotational and viabrational modes. This is in violation of some well defined notions and theorems in physics.

Future Plan

Magnetization due to evanescent modes in open quantum rings.

Publications in Journals

- 1. U. Satpathi and **P. Singha Deo**, *Spontaneous symmetry breaking in quasi one dimension*, AIP conference proceedings, **1665**, 090019, 2015.
- 2. U. Satpathi, S. Ghosh, Ashim Ray and **P. Singha Deo**, *Localization of electrons in internal frame*, IJMP B, **30**, 1550266, 2016.

Supervision of Students

Ph.D. Students: U. Satpathi and Souvik Roy

Course Taught

1. From August to December 2015 I taught Mathematical methods (PHY102) to 1st semistar MSc (post BSc) students at S.N. Bose Centre.