

1022-35-58

**Tanya J. Christiansen\*** ([tjc@math.missouri.edu](mailto:tjc@math.missouri.edu)), Department of Mathematics, University of Missouri, Columbia, MO 65211. *Isophasal, isopolar, and isospectral Schrödinger operators and elementary complex analysis.*

We explicitly construct super-exponentially decaying potentials on  $\mathbb{R}^d$  so that the associated Schrödinger operators are isophasal and isopolar. We use similar techniques to construct isospectral Schrödinger operators with periodic potentials on  $\mathbb{R}$  and isospectral Schrödinger operators on  $\mathbb{S}^1$ . (Received September 07, 2006)