

# SHARP BOUNDARY TRACE THEORY AND SCHRÖDINGER OPERATORS ON BOUNDED LIPSCHITZ DOMAINS

Jussi Behrndt

**Abstract:** We develop a sharp boundary trace theory in arbitrary bounded Lipschitz domains which, in contrast to classical results, allows “forbidden” endpoints and permits the consideration of functions exhibiting very limited regularity. This is done at the (necessary) expense of stipulating an additional regularity condition involving the action of the Laplacian on the functions in question which, nonetheless, works perfectly with the Dirichlet and Neumann realizations. In turn, this boundary trace theory serves as a platform for developing a spectral theory for Schrödinger operators on bounded Lipschitz domains, along with their associated Weyl–Titchmarsh operators.

This talk is based on joint work with Fritz Gesztesy and Marius Mitrea.