

Abstract Submitted
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Theoretical **Study**
**of Tunneling Conductance in Normal-Metal/Insulator/PrOs₄Sb₁₂ and
Ferromagnet/Insulator/PrOs₄Sb₁₂ Junctions¹** SEYYED SAEED BOHLOUL,
STEPHANIE CURNOE, Memorial University of Newfoundland — We theoretically
investigate the tunnel conductance in normal-metal/insulator/superconductor and
ferromagnet/insulator/superconductor junctions for the unconventional superconductor
PrOs₄Sb₁₂. Using several pair potentials provided by group theoretical considerations,
the conductance is calculated for singlet as well as triplet pairing. The result shows
that the direction of the electric tunneling current and the relative orientation of the
superconductor (i.e. position of point nodes) are two main factors that determine the
shape of conductance spectrum for a junction. In addition, comparison with experimental
results provide useful information regarding the actual symmetry of the pair potential in
the superconducting phase of PrOs₄Sb₁₂.

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