**Theory of Tunneling Spectroscopy in LaFeAsO$_{1-x}$F$_x$** SEIICHIRO
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Recent discovery of superconductivity in the iron based LaFeAsO$_{1-x}$F$_x$ with Tc =
26K has stimulated great interests as a new class of non-cuprate compound. We
calculate the surface density of state of LaFeAsO$_{1-x}$F$_x$ superconductor. The gap
function is obtained microscopically by solving the Eliashberg equation in a 5-band
Hubbard model with the random phase approximation (RPA). Green's function of
the surface state is obtained by inserting infinite potential barriers using Matsumoto
and Shiba method. Although the gap function has a sign change between Fermi
surfaces, we cannot find mid gap Andreev bound state in [100] and [110]-oriented
interface.

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