

**THE ROLE OF RESONANCE AND DECOHERENCE IN THE
STICKING PROBLEM**

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The sticking of atoms to surfaces at ultracold collision energies has been a long standing controversy, although it is now basically settled both theoretically and experimentally. I will present the theoretical picture which emerged a few years ago, wherein a competition is set up between resonance effects, (which can defeat quantum reflection), and decoherence, which suppresses resonant tunneling through the effective barrier set up by the quantum reflection phenomenon.