

## Temperature-Dependent Electric Noise Level in Different Iron-based Superconductors

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**Abstract** - A detailed characterization of the voltage-noise properties has been performed in FeTe<sub>0.5</sub>Se<sub>0.5</sub> epitaxial thin films and Co-doped BaFe<sub>2</sub>As<sub>2</sub> bilayers, deposited by pulsed laser deposition. In all the samples analyzed, the experimental voltage-spectral density has a  $1/f$  noise component. Different behaviors are observed for the bias current and temperature dependencies of this  $1/f$  noise, and are related to specific structural and electric transport properties of the two materials.

**Keywords** – Fe-Te-Se, Ba-Fe-As thin films, iron-based superconductors, voltage-noise