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## Transport Properties of the $\gamma$ -Al<sub>2</sub>O<sub>3</sub>/SrTiO<sub>3</sub> Heterostructure

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The 2-dimensional electron gas formed at the interface between LaAlO<sub>3</sub> and SrTiO<sub>3</sub> has attracted a lot of interest due to its fascinating electronic structure. Compared to semiconductors the electrons still suffer from a low carrier mobility. Substituting the deposited film with the spinel  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> resulted in a  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>/SrTiO<sub>3</sub> heterostructure exhibiting a high electron mobility thus providing a big step towards applications and mesoscopic measurements. Understanding the electron transport is, however, still crucial. Here, we report an investigation of the transport properties of the  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>/SrTiO<sub>3</sub> interface hereunder a study of anisotropy and carrier density tuning.