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Title:	Probing conducting interfaces by combined photoluminescence and transport measurements: LaVO <sub>3</sub> and SrTiO <sub>3</sub> interface as a case study
Authors:	De, Joydip (/jspui/browse?type=author&value=De%2C+Joydip) Pal, Santanu Kumar (/jspui/browse?type=author&value=Pal%2C+Santanu+Kumar)
Keywords:	Hall effect Photon counting
Issue Date:	2021
Publisher:	APS
Citation:	Physical Review B, 104(8).
Abstract:	The carrier-density distribution near a conducting interface and the related band structure are topics of great contemporary importance in low-dimensional quantum solids. We propose a scheme, innovatively combining the spectroscopy techniques of photoluminescence and time-correlated single-photon counting with transport measurements of resistivity to unravel the carrier distribution, the shape of quantum well, energy subbands, and Fermi surfaces of the conducting interface of LaVO <sub>3</sub> and SrTiO <sub>3</sub> . Electronic parameters, such as the carrier density, the mobility, estimated from the electrical measurements, are in remarkably good agreement with those extracted from the spectroscopy with theoretical modeling providing a bridge between the two sets of data analysis.
Description:	Only IISERM authors are available in the record
URI:	<a href="https://journals.aps.org/prb/abstract/10.1103/PhysRevB.104.L081111">https://journals.aps.org/prb/abstract/10.1103/PhysRevB.104.L081111</a> ( <a href="https://journals.aps.org/prb/abstract/10.1103/PhysRevB.104.L081111">https://journals.aps.org/prb/abstract/10.1103/PhysRevB.104.L081111</a> ) <a href="http://hdl.handle.net/123456789/4824">http://hdl.handle.net/123456789/4824</a> ( <a href="http://hdl.handle.net/123456789/4824">http://hdl.handle.net/123456789/4824</a> )
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