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Fabrication of Indium Based Ohmic Contacts to Gallium Arsenide that are Homogenous for Resist Processing

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Abstract: Metal-Semiconductor contacts are being studied extensively because of their ap-plications in various direct current and microwave applications. In this project, I

have worked on fabricating non-rectifying metal-semiconductor contacts, also known as ohmic contacts. Microwave circuits with these ohmic contacts have an extensive applications, from biomedical fields to controlling quantum qubits inside a quantum computer. The main focus of this project is to develop ohmic contacts with Indium metal used as a contact material in such a way that these contacts, after fabrication, become useful for resist processing. Resist processing is a crucial step used after the formation of contacts. These resist processes define the Gallium arsenide structure for further uses in actual microwave circuits. This project works towards finding an efficient way to make Gallium arsenide wafers homogeneous for resist processing after building ohmic contacts.

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