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**Measurements of the Contact Resistance Between GaMnAs and Different Metals** NOAH OPONDO, GRANT RILEY, ROBERT TOLLEY, TYLER BREST, Miami University, XINYU LIU, JACEK FURDYNA, Notre Dame University, KHALID EID, Miami University — We have measured the contact resistance between the ferromagnetic semiconductor GaMnAs and each of the metals silver, aluminum, cupper, and gold. We employed the linear-contact-array geometry[1] for measuring the contact resistance for a range of temperature from 10 K to 300 K. Our samples were made using photolithography, wet etching, and metal deposition. Even though there is a depletion zone between the heavily doped p-type semiconductor GaMnAs and the metals, yet the very high carrier concentration in GaMnAs causes the contact resistance to be quite small and ohmic. We will also discuss the possible mechanisms of conduction at the interface. Determining the contact resistance of GaMnAs is important for spin injection experiments. This work is supported by the Research Corporation for Science Advancement
[1] R.E. Williams, Gallium Arsenide Processing Techniques, Second Edition (Artech House, Norwood, MA, 1990)

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