

Abstract Submitted  
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**Indications of spin-polarized transport in thin film double perovskites Sr<sub>2</sub>FeMoO<sub>6</sub> and Ba<sub>2</sub>FeMoO<sub>6</sub>** SIMON GRANVILLE, Industrial Research Ltd., IAN FARRELL, University of Canterbury, ADAM HYNDMAN, DUNCAN MCCANN, Industrial Research Ltd., GRANT WILLIAMS, Victoria University of Wellington — Double perovskite oxides Sr<sub>2</sub>FeMoO<sub>6</sub> and Ba<sub>2</sub>FeMoO<sub>6</sub> have attracted attention for spintronic device development due to their predicted highly spin-polarized transport characteristics. However, most published experimental results are from bulk material, not thin films that are more relevant for realistic device development. We will present our results of the growth as well as structural, magnetic and transport properties of thin films of double perovskites Sr<sub>2</sub>FeMoO<sub>6</sub> and Ba<sub>2</sub>FeMoO<sub>6</sub> produced by pulsed laser deposition. We have produced highly crystalline, near-epitaxial thin films of each material. We will survey the magnetic and magnetotransport properties, including the magnetoresistance, planar and anomalous Hall effects, which provide evidence for the presence of spin-polarized charge carriers well above room temperature and the potential for developing high sensitivity magnetic sensors.

Simon Granville  
Industrial Research Ltd.

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