

## Poster Presentation

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### *High-pressure Synthesis of New layered Oxyhalide Perovskites*

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The development of transition metal oxides with perovskite-based structure has stimulated the search for mixed anion systems such as oxynitrides, oxyhalides and oxysulfides because incorporation of two different anions in one structure offers further opportunity to effectively induce chemical and physical properties that the pure oxides cannot possess. Such mixed anion phases, however, are difficult to be synthesized by a conventional high-temperature reaction. In this study, we have employed a high pressure technique to overcome this issue, and successfully synthesized a series of new layered oxyhalide compounds. We present structural and magnetic properties of high-valent nickel oxyhalides Sr<sub>2</sub>NiO<sub>3</sub>X (X = F, Cl), and square-planar coordinated oxychlorides Sr<sub>2</sub>MO<sub>2</sub>Cl<sub>2</sub> (Mn, Ni) and Ba<sub>2</sub>PdO<sub>2</sub>Cl<sub>2</sub>, isostructural with superconducting parent compound Ca<sub>2</sub>CuO<sub>2</sub>Cl<sub>2</sub>.

[1] *Chem. Commun.* 47, 2011, 3263, [2] *Inorg. Chem.* 51, 2012, 4802, [3] *Inorg. Chem.* 52, 2013, 10211

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