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## **【123】 Van der Waals magnetic materials: growth and characterization**

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Novel properties and exciting perspectives are offered by two-dimensional magnetic materials, like binary  $MX_2$  and ternary  $MYZ_3$  ( $M$  is a metal element;  $X$  is a halogen;  $Y = \text{Si, Ge or P}$ ;  $Z$  is a chalcogen). Various complementary growth techniques are employed to produce these materials in crystalline form, namely the Chemical Vapor Transport and the high temperature solution (flux) growth. Here we summarize the growth techniques and conditions, as well as the recent advances in the crystal growth of magnetic van der Waals materials. The quality of the bulk crystals is proven by structural and chemical investigations and the study of magnetic properties. These materials can be successfully exfoliated and are being applied in atomically thin devices.

**Primary authors:** Dr DUMCENCO, Dumitru (Department of Quantum Matter Physics, University of Geneva); Dr GIANNINI, Enrico (Department of Quantum Matter Physics, University of Geneva)

**Presenter:** Dr DUMCENCO, Dumitru (Department of Quantum Matter Physics, University of Geneva)

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