

# Molecular beam epitaxy of 2D materials and ferromagnets: towards scalable 2D spin devices

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In 2017, the discovery of 2D ferromagnets has opened exciting opportunities to explore low dimensionality magnetism, proximity phenomena in heterostructures and all-van der Waals spintronics [1,2]. In this presentation, I will review our recent progress in the fabrication of wafer-scale 2D ferromagnets by molecular beam epitaxy. Different types of layered ferromagnets will be discussed: diluted semiconducting transition metal dichalcogenides (Mn-doped MoSe<sub>2</sub> [3,4] and V-doped WSe<sub>2</sub> [5]), metallic (V,Pt)Se<sub>2</sub> 2D alloys [6], Fe<sub>x</sub>GeTe<sub>2</sub> (x=3-5) intrinsic ferromagnets [7], and quasi-van der Waals Cr<sub>1+δ</sub>Te<sub>2</sub>.

## REFERENCES

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