

Magnons

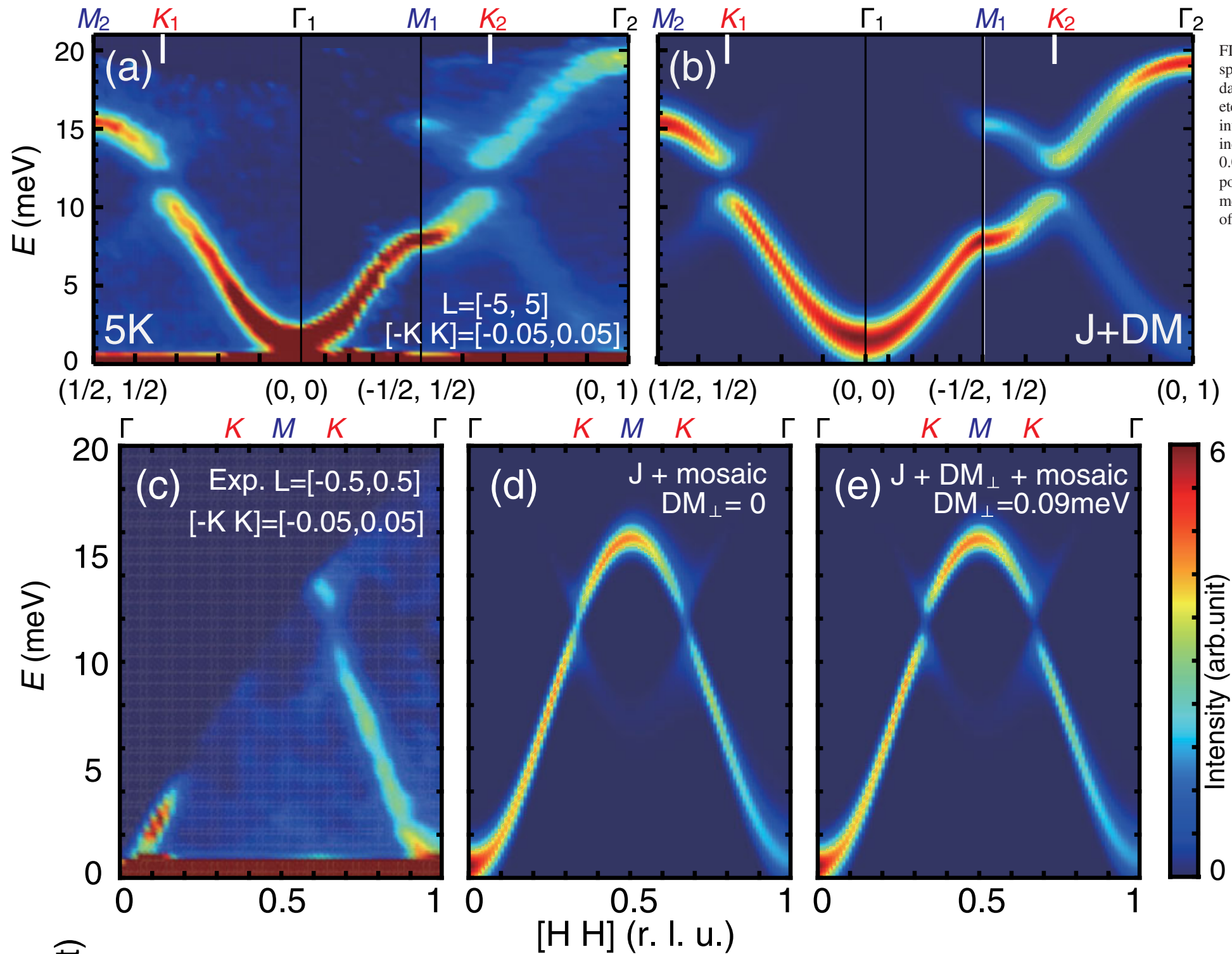
Magnetic Field Effect on Topological Spin Excitations in CrI₃

Lebing Chen¹, Jae-Ho Chung^{2,*}, Matthew B. Stone³, Alexander I. Kolesnikov³, Barry Winn³, V. Ovidiu Garlea³,
Douglas L. Abernathy³, Bin Gao¹, Mathias Augustin^{4,6}, Elton J. G. Santos^{4,5,6,†} and Pengcheng Dai^{1,‡}

CrI₃ is a FM insulator with T_c=45K with significant magnetic anisotropy. It is a layered material where the layers are held together by van der Waals interactions and can be exfoliated into 2D layers. To buy CrI₃ crystals, [click here](#)

Magnetic Field Effect on Topological Spin Excitations in CrI_3

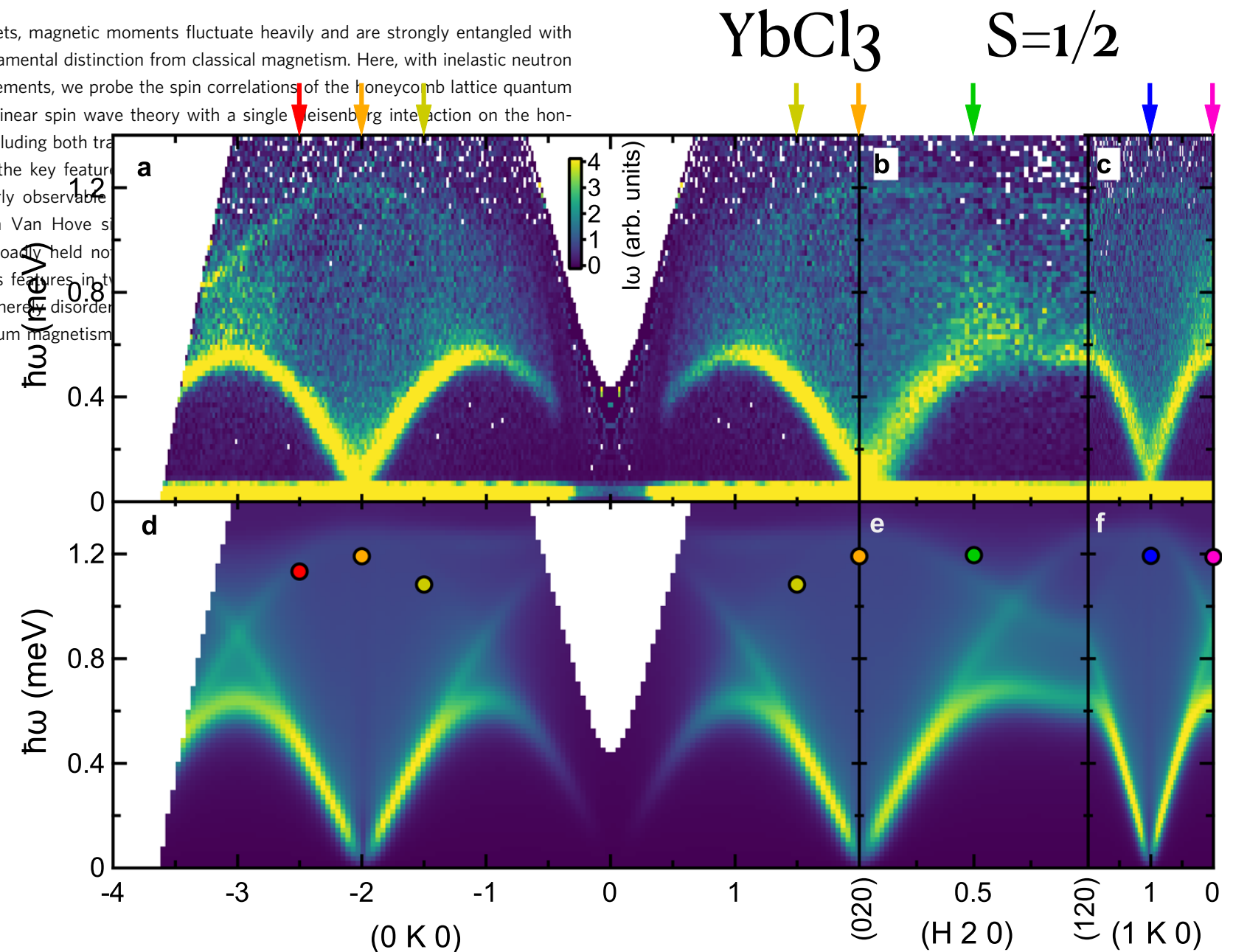
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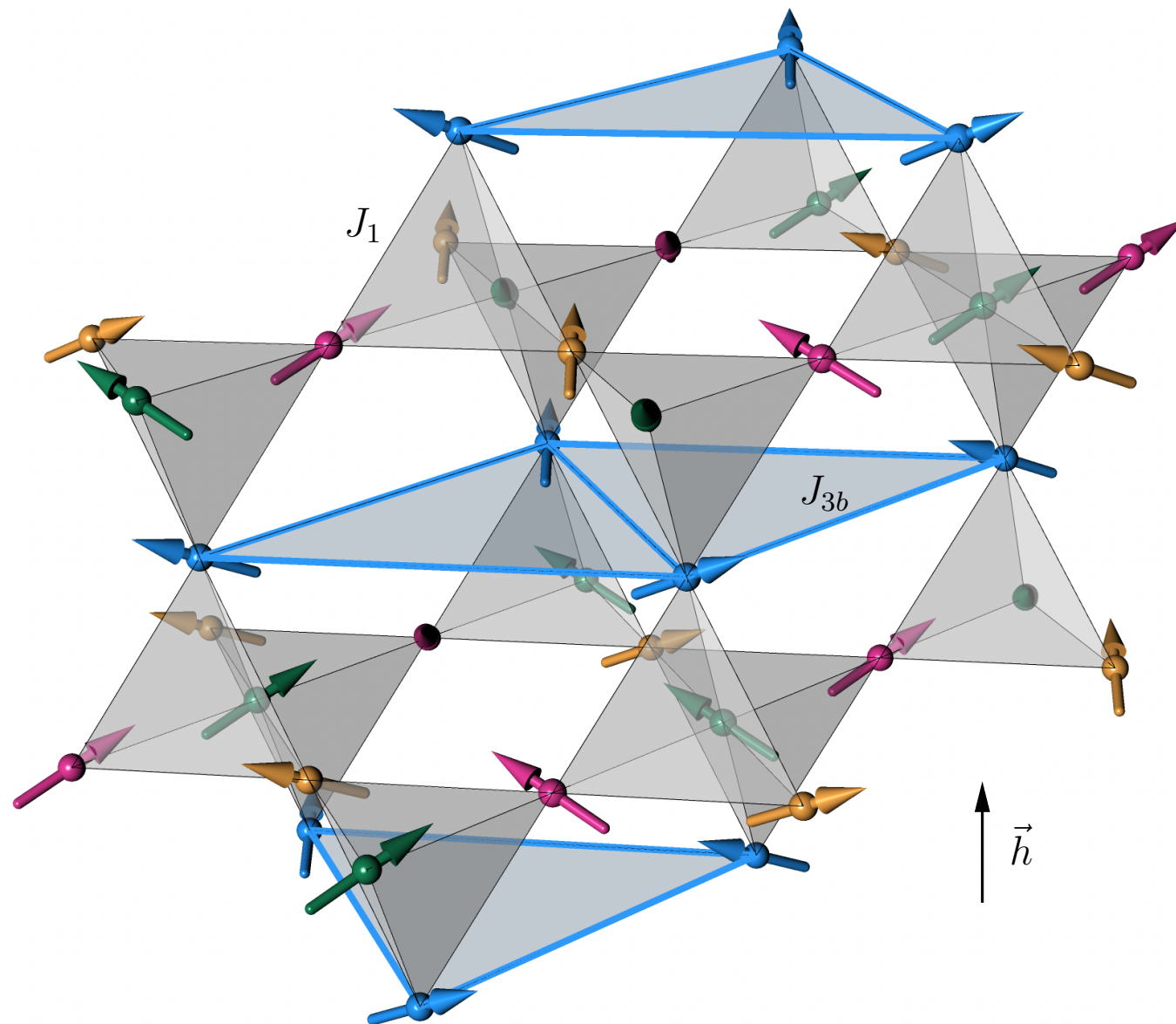
Van Hove singularity in the magnon spectrum of the antiferromagnetic quantum honeycomb lattice

G. Sala^{1,2}, M. B. Stone², Binod K. Rai³, A. F. May³, Pontus Laurell⁴, V. O. Garlea², N. P. Butch⁵, M. D. Lumsden², G. Ehlers⁶, G. Pokharel^{3,7}, A. Podlesnyak², D. Mandrus^{3,7,8}, D. S. Parker³, S. Okamoto³, Gábor B. Halász³ & A. D. Christianson³✉

In quantum magnets, magnetic moments fluctuate heavily and are strongly entangled with each other, a fundamental distinction from classical magnetism. Here, with inelastic neutron scattering measurements, we probe the spin correlations of the honeycomb lattice quantum magnet YbCl_3 . A linear spin wave theory with a single Heisenberg interaction on the honeycomb lattice, including both transverse and longitudinal components, reproduces all of the key features of the experimental data: a clear Van Hove singularity, a clearly observable dispersion, and a confirmation of broadly held notions about quantum magnetism because analogous features in topological spin liquids from merely disordered material for quantum magnetism.



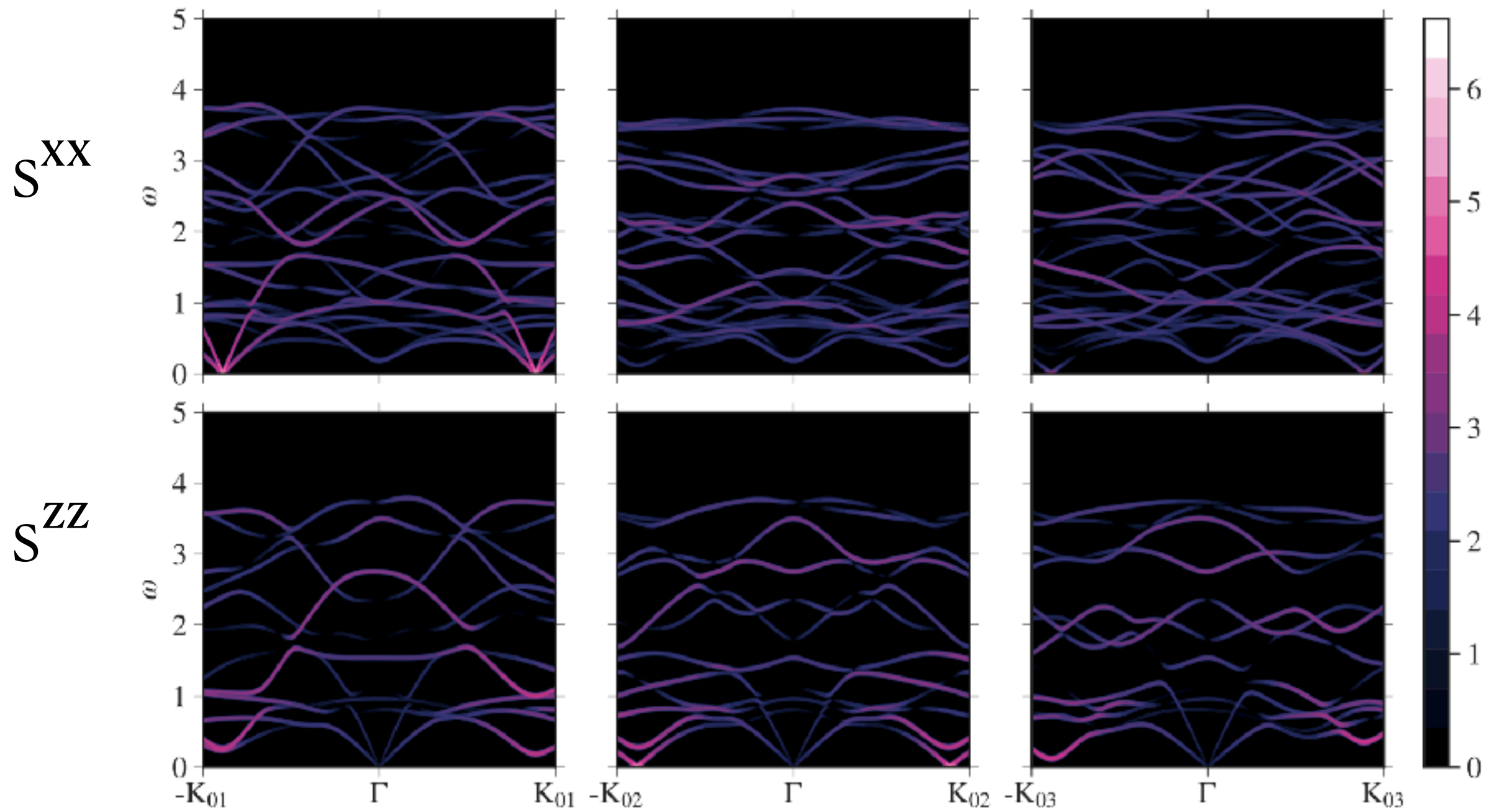
Pyrochlore lattice



Cecilie Glittum, OFS

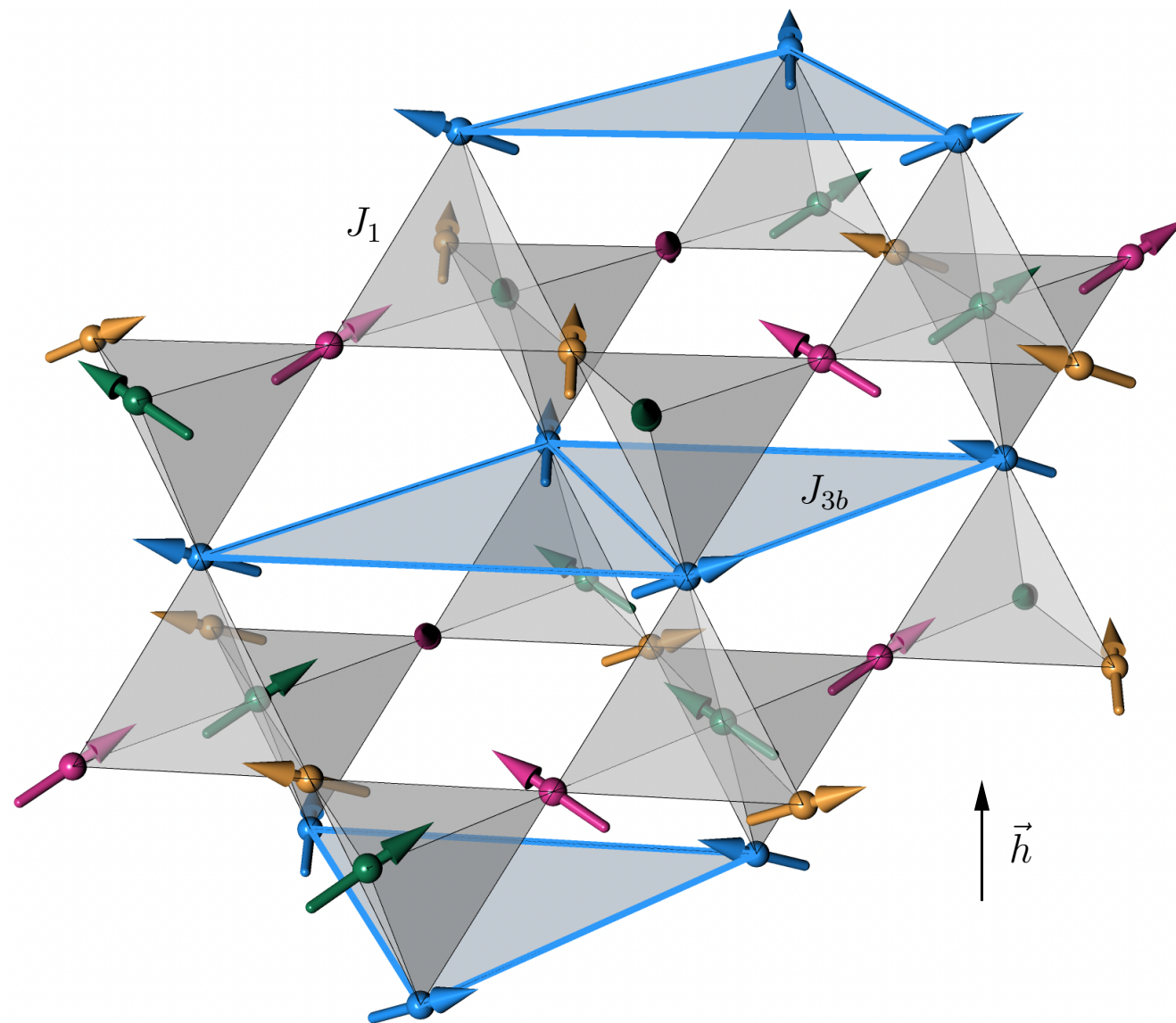
Pyrochlore lattice

log-scale



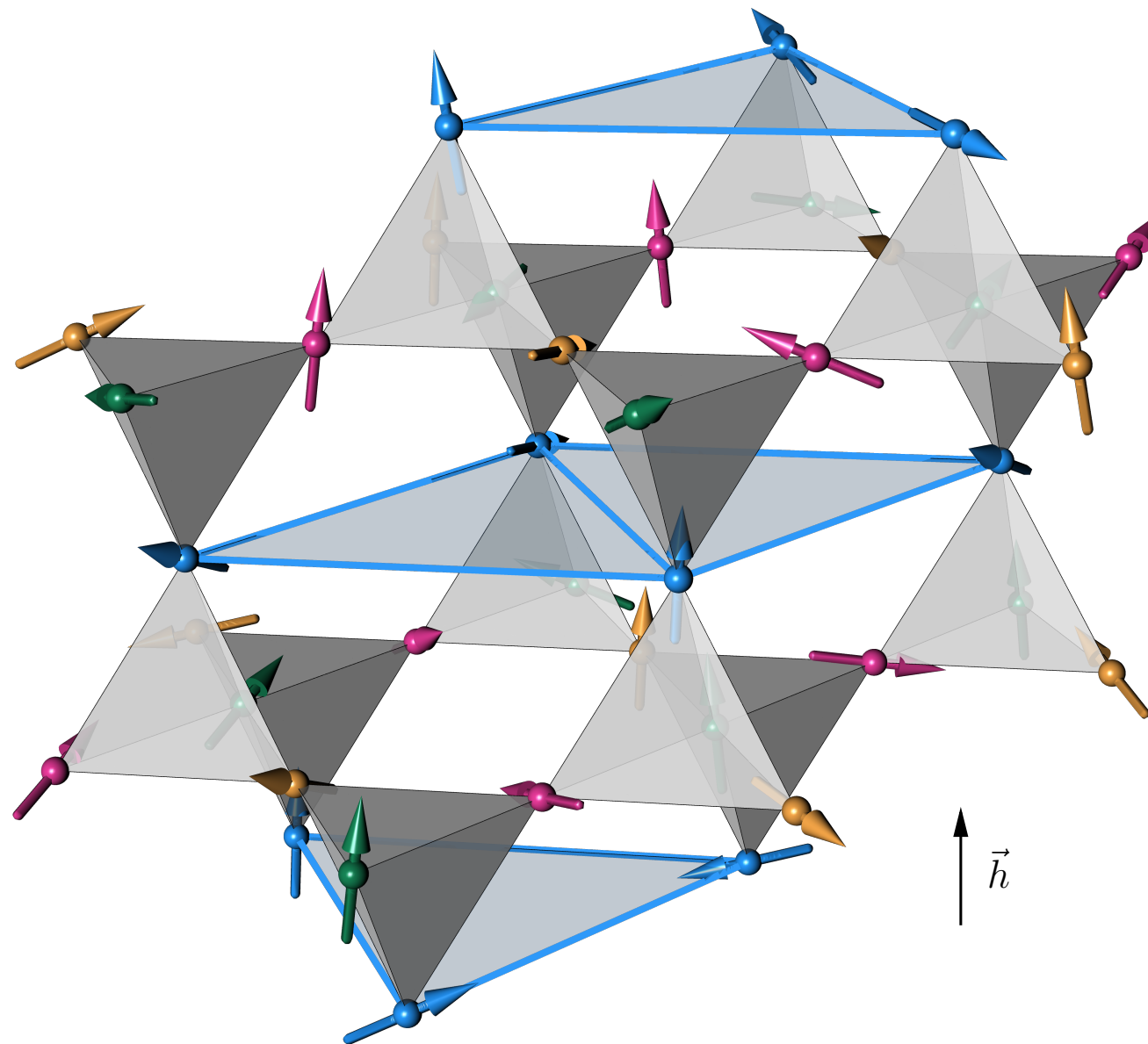
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Pyrochlore lattice



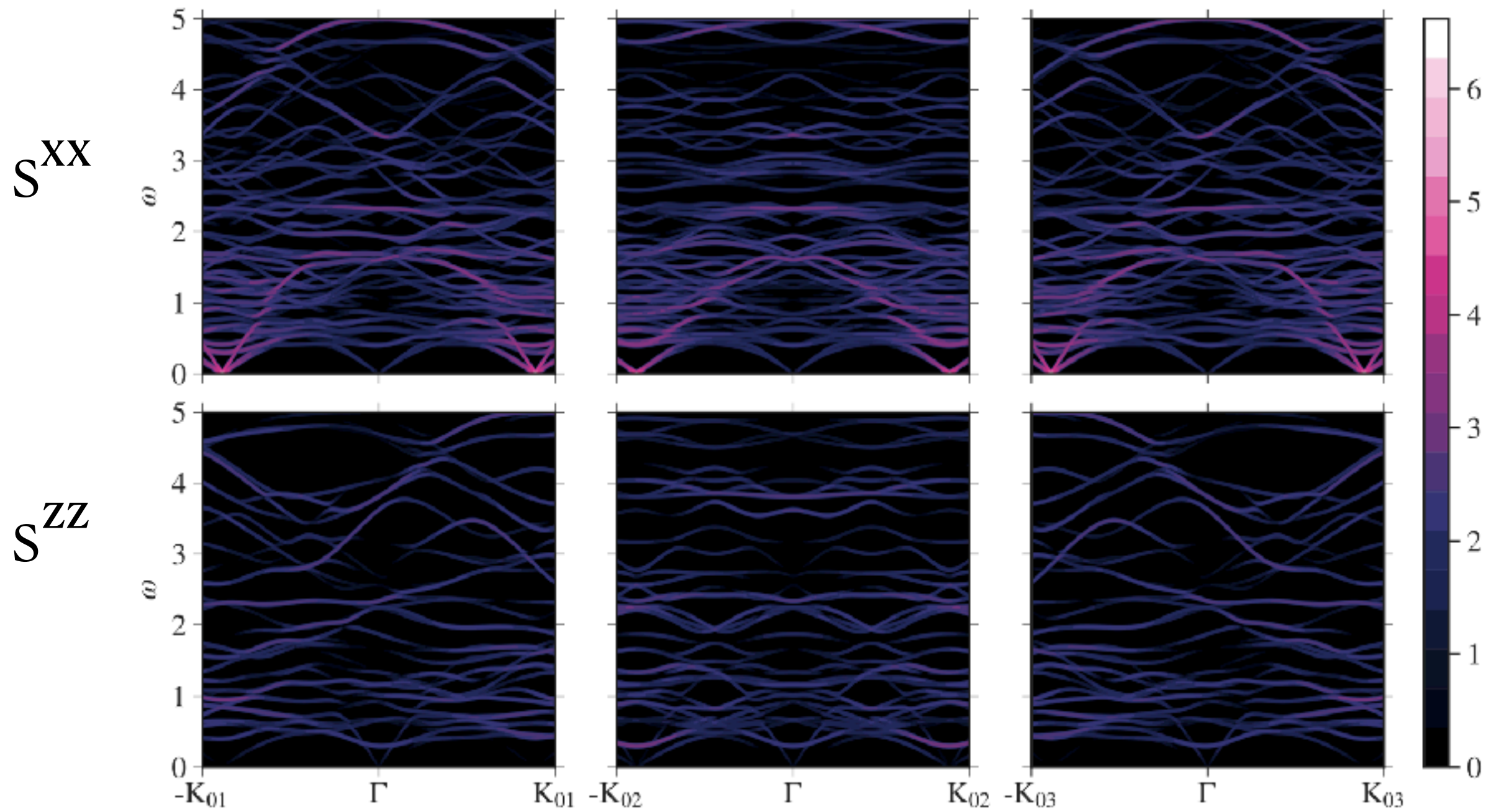
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Pyrochlore lattice



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Pyrochlore lattice



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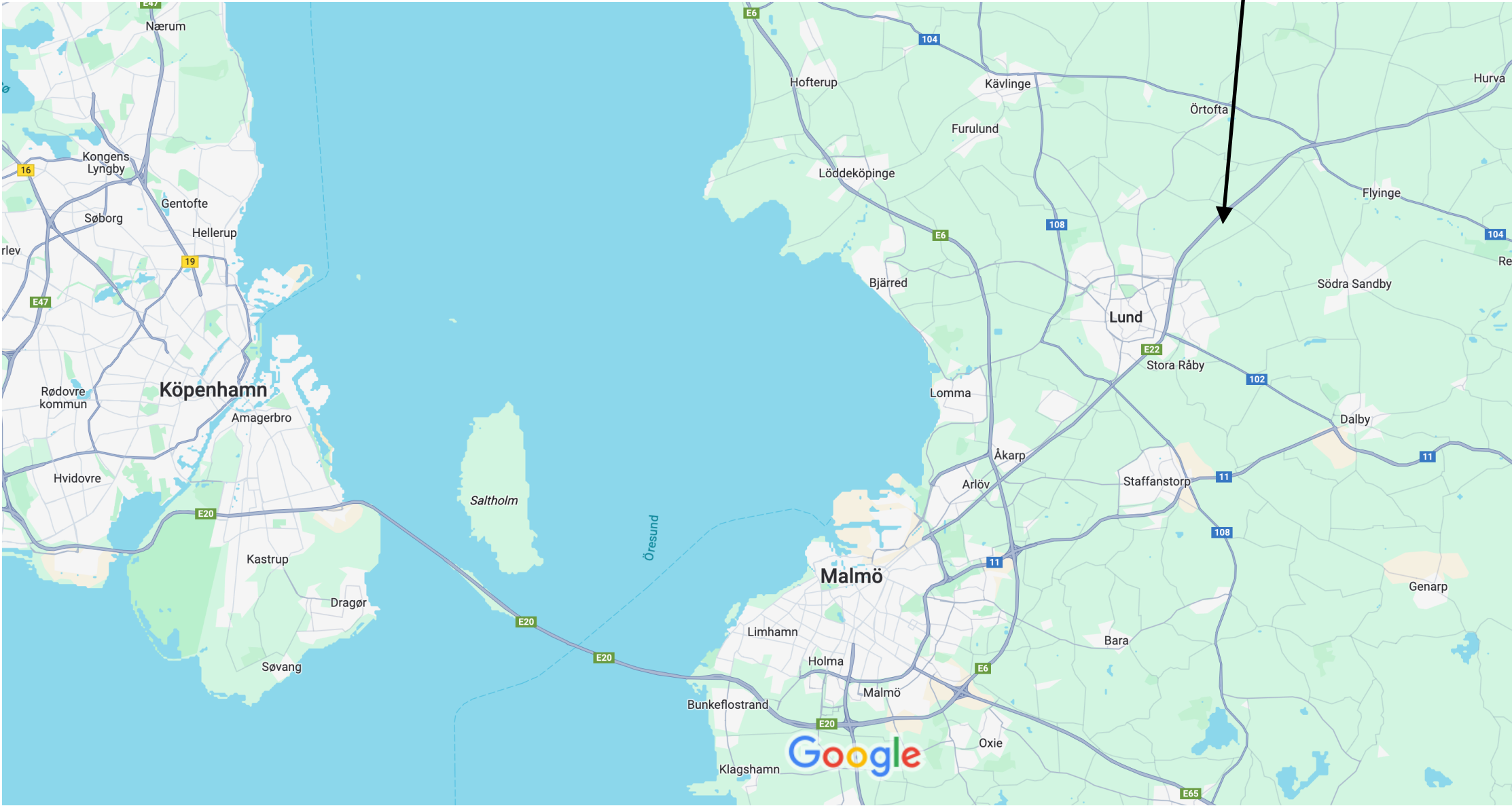
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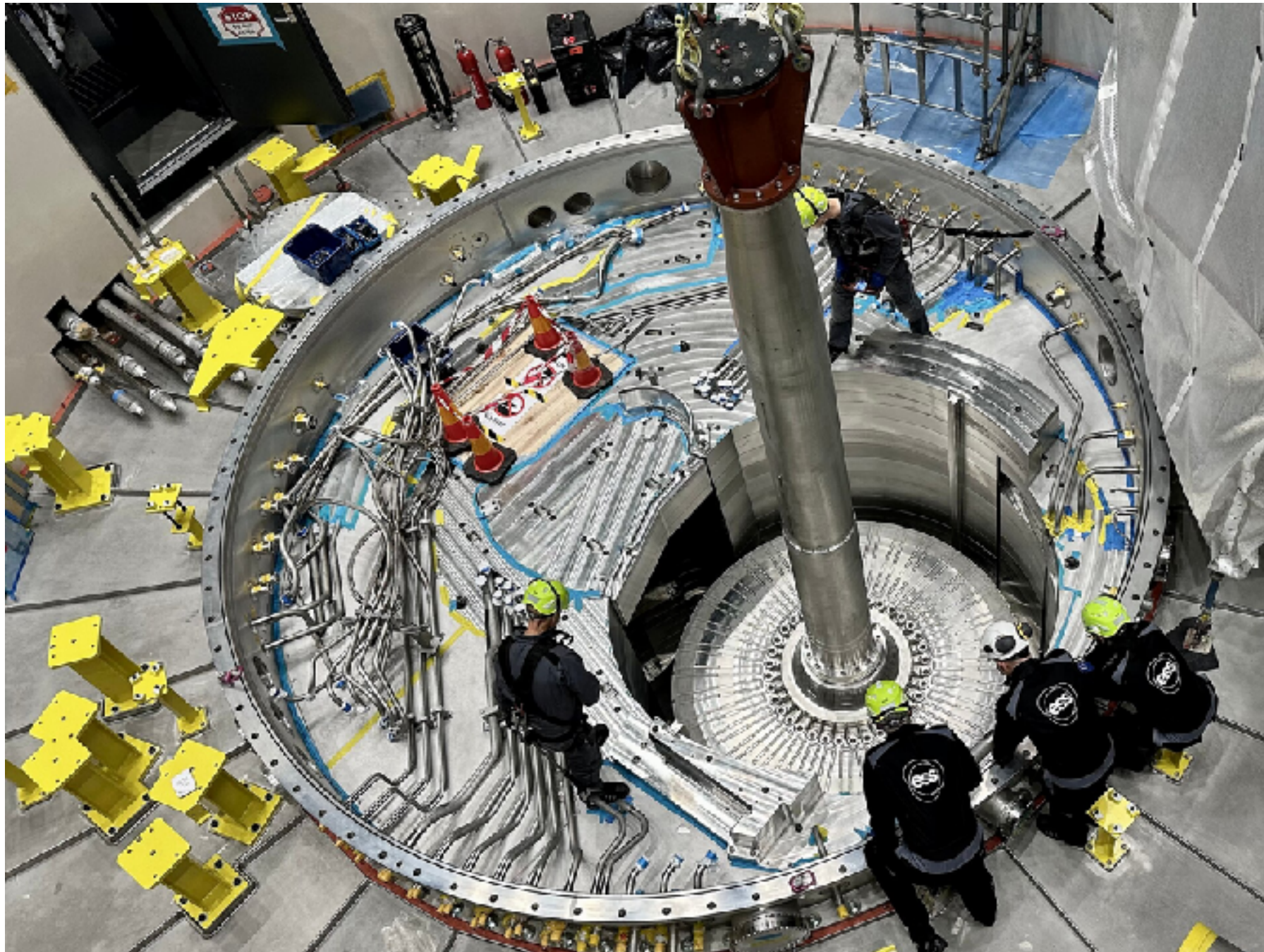


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One of the
initial 15
instruments
(LOKI, SANS)

