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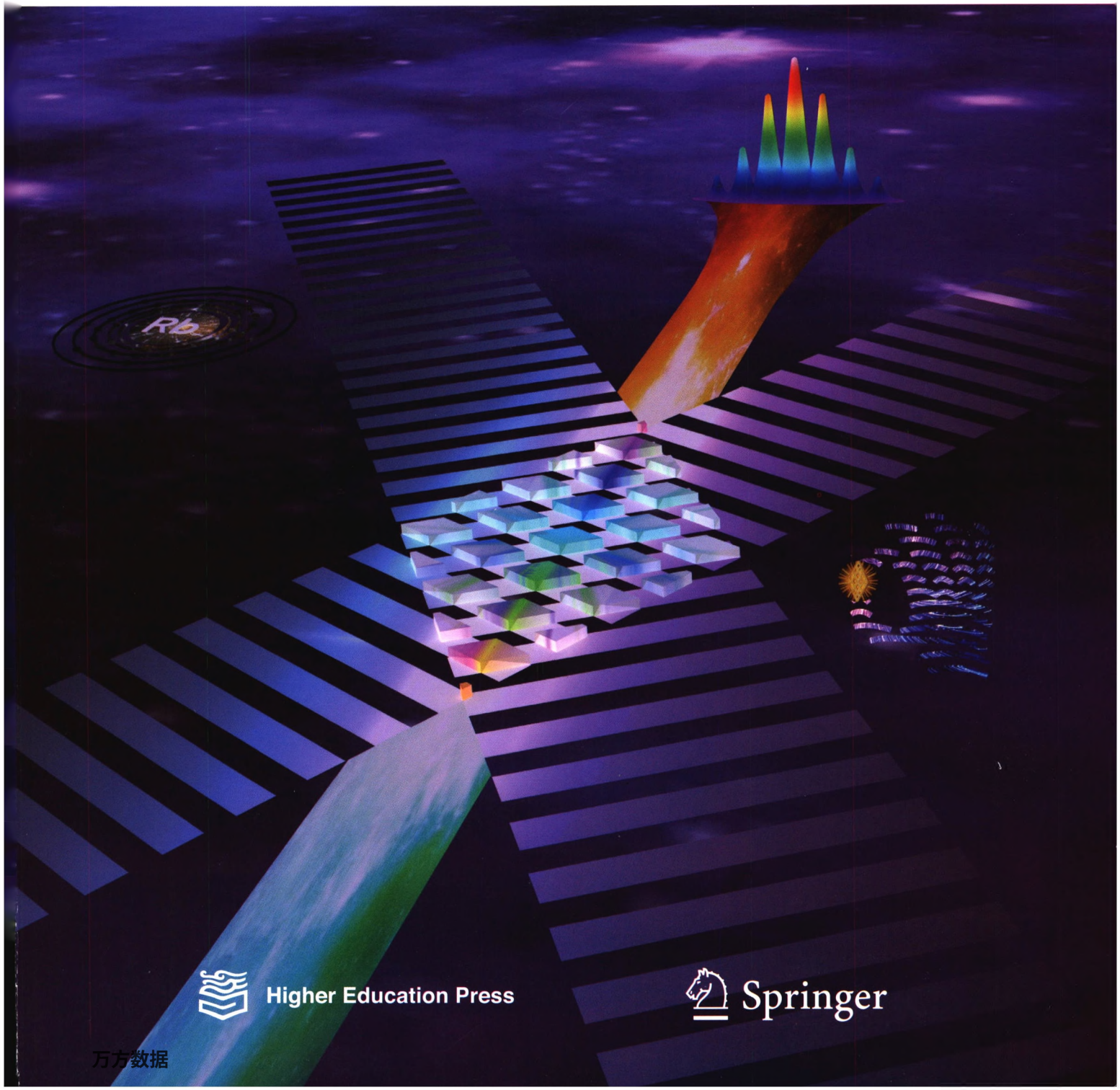

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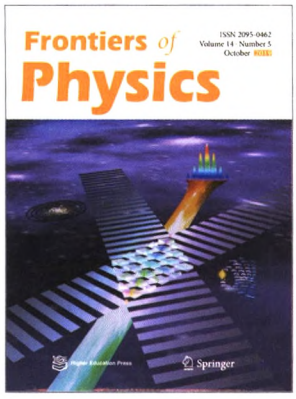

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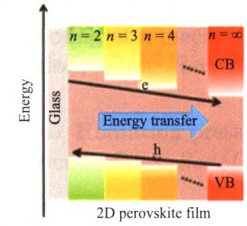

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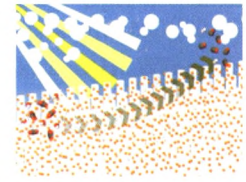

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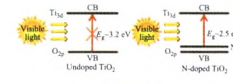

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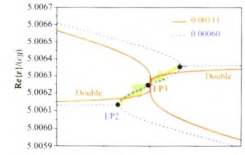

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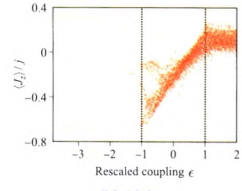

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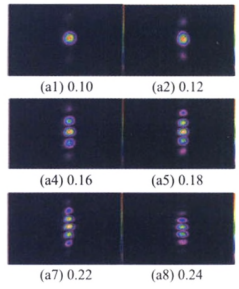

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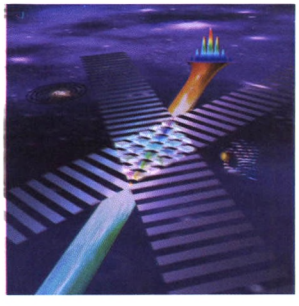

Cover

Artificial and periodically modulated optical structure realizes the possibility for tailoring the diffraction and dispersion properties of light. Electromagnetically induced grating (EIG) is constructed by replacing the traveling wave field of electromagnetically induced transparency with a standing-wave field, the atomic coherence of medium is modulated periodically in the space and the weak probe field can be diffracted into high order patterns. Compared with the traditional grating, the EIG configuration can be easily constructed and flexibly tuned, thus the properties of light propagation can be directly controlled. Here, a controllable electromagnetically induced grating is experimentally realized in a coherent rubidium ensemble. Such a controllable periodic structure can provide a powerful tool for studying the control of light dynamics, pave the way for realizing new optical device. For more details, please refer to the article "Controllable electromagnetically induced grating in a cascade-type atomic system" by Jin-Peng Yuan, Chao-Hua Wu, Yi-Hong Li, Li-Rong Wang, Yun Zhang, Lian-Tuan Xiao, and Suo-Tang Jia, *Front. Phys.* 14(5), 52603 (2019). [Photo credits: Jin-Peng Yuan & Li-Rong Wang]

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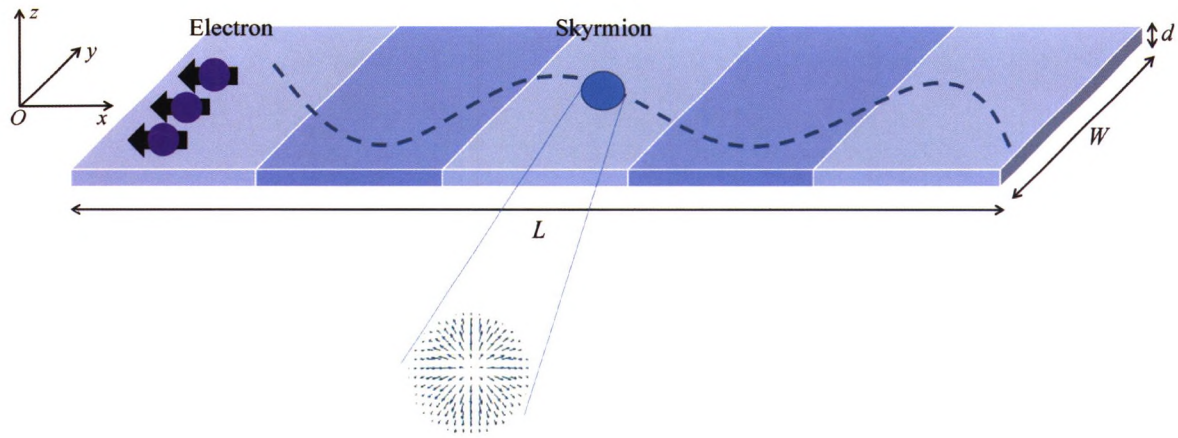

A chiral ferromagnetic film with spatially modulated Dzyaloshinskii–Moriya interaction is placed in the x–y plane. Spin-polarized electrons are injected to drive the motion of the magnetic skyrmion in the film. L: Length; W: Width; d: Thickness. See: Liping Zhou, Ren Qin, Ya-Qing Zheng, and Yong Wang, Skyrmion Hall effect with spatially modulated Dzyaloshinskii–Moriya interaction, *Front. Phys.* 14(5), 53602 (2019).

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