



## **Alfvénic turbulence and magnetic reconnection in a plasma**

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We argue that when the Reynolds number is sufficiently large, the processes of magnetic reconnection significantly affect or even alter the Alfvénic plasma turbulence at small scales. Magnetic plasma turbulence is known to generate current sheets. These current sheets are prone to the tearing instability that modifies the turbulent cascade at small scales. The resulting reconnection-mediated turbulent cascade is different from the Kolmogorov-like Alfvénic counterpart, and it opens a new route for energy dissipation in magnetic plasma turbulence. The scaling of the energy spectrum of reconnection-mediated turbulence ranges from the  $-11/5$  in the collisional case to the values between  $-8/3$  and  $-3$  in collisionless plasmas.

### References:

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