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Kinetic turbulence in 3D collisionless magnetic reconnection with a guide magnetic field

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The features of kinetic plasma turbulence developed during non-relativistic 3D collisionless magnetic reconnection are still not fully understood. This is specially true under the influence of a strong magnetic guide field, a scenario common in space plasmas such as in the solar corona and also in laboratory experiments such as MRX or VINETA II. Therefore, we study the mechanisms and micro-instabilities leading to the development of turbulence during 3D magnetic reconnection with a fully kinetic PIC code, emphasizing the role of the guide field with an initial setup suitable for the aforementioned environments. We also clarify the relations between these processes and the generation of non-thermal populations and particle acceleration.