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Instabilities of the separatrix regions in 3D kinetic reconnection GIOVANNI LAPENTA, STEFANO MARKIDIS, ANDREY DIVIN, KU Leuven, MARTIN GOLDMAN, DAVID NEWMAN, CPIS, CU — The separatrix and its immediate vicinity is a region of strongly focused and highly accelerated electron flows. We have conducted several massively parallel kinetic simulations with thenew code iPic3D. We report: 1) the nature of the electron flow and of the electric fields in the separatrix region 2) a new instability, different in nature from that recently reported by Daughton et al, Nature Phys. 2011. 3) we investigate the properties of the phase space and the spectral properties of the new instability 4) Different diagnostics will be deployed to gather all the needed information 4) the nature is identified and will be disclosed at the meeting and its relation to know linear modes will be presented.

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