

1st Spanish Fusion HPC Workshop Programme

27 November 2020

9.00 CET

9:00-9:10	Welcome	
	Chair: <i>Mervi Mantsinen</i>	
9:10-9:55	Alberto Loarte: Modelling needs to support the ITER Research Plan and role of HPC	
9:55-10:40	Susana Clement Lorenzo: Role of HPC in Broader Approach Activities in Fusion	
10:40-10:55	Break	
	Parallel Session Room 1	Parallel Session Room 2
	Chair: <i>Shimpei Futatani</i>	Chair: <i>Mervi Mantsinen</i>
10:55-11:20	Jeronimo Garcia: Fast ions as a source of transport suppression in JET plasmas	Maria J. Caturla: The role of high performance computing in predictive models for microstructure evolution of irradiated Fe and FeCr alloys
11:20-11:45	Yasuhiro Suzuki: Nonlinear MHD simulation of core plasma collapse events in stellarators	J.J. Honrubia: Integrated simulations of fast ignition of inertial fusion targets
11:45-12:10	Ihor Holod: Advanced Preconditioner for the non-linear MHD code	Prashant Dwivedi: Molecular dynamics simulation of hypervelocity impacts; W on W.
12:10-13:15	Lunch break enlivened with Virtual MareNostrum Tour by Oriol Riu (12:10-12:40)	
	Chair: <i>Mervi Mantsinen</i>	
13:15-14:00	Xavier Litaudon: EUROfusion E-TASC Programme and HPC role within it	
	Parallel Session Room 1	Parallel Session Room 2
	Chair: <i>Edilberto Sanchez</i>	Chair: <i>Alejandro Soba</i>
14:00-14:25	José Manuel García Regaña: Turbulent transport of impurities in multispecies stellarator plasmas	Albert Gutierrez-Milla: Progress in the transferability of fusion workflows across HPC systems
14:25-14:40	Sadig Mulas: Simulations of neutral beam injection in TJ-II stellarator using the Monte Carlo code ASCOT	Diogo R. Ferreira: Use of HPC Infrastructures for Deep Learning in Fusion Research
14:40-14:55	Carlos Daniel Mora Moreno: Geometric considerations for zonal flow activity in stellarators as the starting point for transport modeling	Julita Inca Chiroque: Preconditioners for Large Geometries
14:55-15:10	Break	
	Parallel Session Room 1	Parallel Session Room 2
	Chair: <i>Edilberto Sanchez</i>	Chair: <i>Alejandro Soba</i>
15:10-15:35	Alexey Mishchenko: Numerics and computation in gyrokinetic simulations of electromagnetic turbulence with global particle-in-cell codes	Jesus Dominguez-Palacios: Non-linear hybrid kinetic-MHD modeling of the interaction between ELMs and fast-ions using MEGA

15:35-15:50	Alberto Fraile: Volume and pressure of helium bubbles inside liquid Pb16Li. A molecular dynamics study	Álvaro López Cazalilla: Effect of surface morphology on Tungsten sputtering yields
15:50-16:05	Daniel Suarez: Mechanical energy transfer in liquid metal MHD flows in DCLL breeding	Aleksander Dubas: Evaluating Exascale FEA Backends for Fusion Digital Twins
16:05-16:20	Jonathan Shimwell: The Paramak, automated parametric geometry construction for fusion reactor analysis	Stylianos Varoutis: GPU acceleration of DEMO particle exhaust simulations
	Chair: <i>Mervi Mantsinen</i>	
16:20-16:35	Jordi Mas: HPC resources RES & PRACE	
16:35-16:45	Closing	