ASI 2021 Workshop – 4: Recent Insights into Solar Active Region Dynamics

09:20 – 09:30 : Welcome Address – Rohan Louis		
Session 1 (09:30 – 11:00): Physics of the Solar Dynamo & Sub-photospheric Flows in Active Regions Chair: Nandita Srivastava		
09:30 – 10:00	Shravan Hanasoge	Equatorial Confinement of Turbulence in the Sun (Invited)
10:00 – 10:15	Bidya Binay Karak	Dynamo Saturation through the Latitudinal Variation of Bipolar Magnetic Regions in the Sun
10:15 – 10:30	Sudip Mandal	Sunspot Area Catalogue: A Tool to Better Understand the Solar Dynamo
10:30 – 10:45	Ram Ajor Maurya	Magnetic Fields and Sub-photospheric Flows of Solar Active Regions
10:45 – 11:00	Prantika Bhowmik	Evolution of the Sun's Magnetic Field as Governed by Solar Dynamo
Break (11:00 – 11:15)		
Session 2 (11:15 – 12:45): Magnetic Flux Emergence and Transport Chair: Bidya Binay Karak		
11:15 – 11:45	B. Ravindra	Evolution of Net Currents in Active Regions (Invited)
11:45 – 12:00	Dattaraj Dhuri	Identifying Pre-emergence Magnetic Field Patterns using Deep Learning
12:00 – 12:30	Rahul Yadav	Magnetic Flux Emergence in the Solar Atmosphere (Invited)
12:30 – 12:45	Rohan Louis	Formation of an Atypical Sunspot Light Bridge as a Result of Large-scale Flux Emergence
Lunch Break (12:45 – 14:00)		
Session 3 (14:00 – 15:45): Solar Eruptions and their Propagation in the Interplanetary Medium Chair: Piyali Chatterjee		
14:00 – 14:30	P. Vemareddy	On the Evolution of Magnetic Helicity Flux from Solar Active Regions: Our Present Understanding (Invited)
14:30 – 14:45	Sanchita Pal	Magnetic Reconnection Impacting Solar Eruptions and their Propagations
14:45 – 15:15	Ranadeep Sarkar	Active Region Dynamics and their Implications to Space Weather Forecasting (Invited)
15:15 – 15:30	Raja Bayanna	Chromospheric Observations of Solar Activity with MAST
15:30 – 15:45	Sudheer Mishra	On the Different Phases of the Evolution of Magnetic Rayleigh-Taylor Instability in Eruptive Solar Prominences
Break (15:45 – 16:00)		
Session 4 (16:00 – 17:00): Numerical Simulations & Machine Learning in Solar Physics Chair: Shibu K. Mathew		
16:00 – 16:15	Sushree S. Nayak	Magnetohydrodynamics of Solar Transients in Different Reconnection Regimes
16:15 – 16:30	Soumitra Hazra	Distinguishing between Flaring and Non-Flaring Active regions: A Machine Learning Perspective
16:30 – 16:45	Sahel Dey	MHD Simulations of Solar Swirls in Regions of Strong Magnetic Field
16:45 – 17:00	Suvadip Sinha	Classification of Solar Active Regions by Flare Productivity: A Machine Learning Approach
17:00 – 17:10 : Vote of Thanks		