

Lecture Schedule

Jan/22/2024

Lecture #	Date	Tentative Topic	Who	Area
1	2-Apr	Measurements and theory. HED Facilities. Videos of facilities. Critical density, ablation pressure. Ionosphere. X-ray mirrors. Overview Diagnostics-video Q of fusion: plasma reactivity.	Joe Kilkenny	General introduction
2	4-Apr	Implosions, fusion reactivity, Gamow peak. Yield measurements Nuclear Activation Diagnostic (NAD); DSR and MRS	Joe Kilkenny	Neutrons
3	9-Apr	NTOF, Brysk Doppler broadening for Tion, Viso	Alastair Moore	Neutrons
4	11-Apr	Neutron imaging & data analysis	David Fittinghof	Neutrons
5	16-Apr	Radiochemistry	Dawn Shaughnessy	Related to Neutrons
6	18-Apr	Photo electric effect, x-ray sources, X-ray diode (XRD) rise time and calibration, cables, scopes, deconvolution: Dante time resolving calibrated broad band spectrometers on OMEGA and NIF	Joe Kilkenny	General x-ray
7	23-Apr	Streak cameras (optical and x-ray): electron lenses, transmission photocathodes, spatial and temporal resolution. Streaked x-ray emission imaging. Gated Micro Channel Plate (MCP) imaging: gain of MCP, 100psec pulsers, microstrips propagation on MCP,	Joe Kilkenny	X-ray - broadband
8	25-Apr	X-ray drive; hohlraum; x-ray absorption edge; photocathodes	Joe Kilkenny	X-ray - continuum
9	30-Apr	Dante diagnostic and data analysis	Mike Rubery	X-ray - continuum
10	2-May	X-ray imager	Bernie Koziolowski	X-ray - broadband
11	7-May	Opacity measurements relevant to core of the sun. High accuracy spectrometer-solar opacity models-	Hui Chen	X-ray - line emission
12	9-May	X-ray spectroscopy and spectrometers. Implosion spectroscopy using x-ray continuum and line emission	Hui Chen	X-rays
13	14-May	Visar	Peter Cellier	Optical
14	16-May	Optical Thomson Scattering (OTS)	Geroge Swadling	Optical
15	21-May	Optical backscatter and side-scatter: Full Aperture Back scatter System (FABS) and Near Back Scatter Imager (NBI)	Nuno Lemos	Optical
16	23-May	Image analysis techniques and error propagation: x-ray imaging with neutron background	Nino Izumi	General methods
17	28-May	Detectors for x-ray and particle diagnostics in HED experiments	Clement Trosseille	General methods
18	30-May	Backlighter development: X-ray and particle sources from ps - ns lasers	Hui Chen	General methods
19	4-Jun	High energy photons and fast electron diagnostics in short pulse experiment, high rep rate, IFE	Hui Chen	Future needs
20	6-Jun	Summary, Q&A, Contingency	Joe & Hui	Summary