Metadata for "GPI 140 shot database" (Excel table)
for Nuclear Fusion paper
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Plasma parameters all evaluated at "time of GPI signal peak"

column #	column name	description
A	shot	NSTX shot #
B	GPI peak time (sec)	time of GPI signal peak in sec
C	Ip	plasma current in kA
D	Bt	toroidal field at magnetic axis in kG
E	I/B ratio	ratio of I (kA)/B(kG), proxy for field line angle
F	Pnb (MW)	neutral beam power in MW
G	Prf (MW)	RF heating power in MW
H	ne-ave/1e13	line averaged density in units of 10^{13} cm^{-3}
I	outer gap	distance from outer midplane to RF ant. at 157.5 cm
J	mode	type of plasma at peak of GPI (OH, L, or H)
K	Li_shot (mg)	amount of lithium just preceding this shot in mg
L	Wmhd (kJ)	stored energy from EFIT at peak of GPI in kJ
M	inner separatrix (m)	inner separatrix at midplane in meters
N	outer separatrix (m)	outer separatrix at midplane in meters
O	plasma_width (m)	outer – inner separatrix locations in meters
P	kappa	plasma kappa
Q	drsep	plasma drsep parameter
R	q95	plasma q95
S	Kaye qsep	q at separatrix
T	Kaye qprimesep	qprime at separatrix

Thomson Data at 2 cm inside separatrix (interpolated, and evaluated at GPI peak time)

V	shot	NSTX shot # (same as A)
W	GPI peak time (sec)	time of GPI signal peak in sec (same as B)
X	R(m) from Thomson	major radius of Thomson data at ρ = -2 cm
Y	Te (eV)	electron temperature at ρ = -2 cm
Z	dTe/dR (eV/cm)	radial gradient of Te at ρ = -2 cm
AA	ne/1e13 cm-3	electron density in units of 1e13 cm-3 at ρ = -2 cm
AB	ne/1e11 cm-3	electron density in units of 1e11 cm-3 at ρ = -2 cm
AC	dne/dR (1e13/cm)	radial gradient of ne in 1e13/cm2 at ρ = -2 cm
AD	ngradT+Tgrad n	radial gradient of electron pressure x-1 at ρ = -2 cm

Edge Rotation Diagnostic data at peak of CIII line (evaluated at GPI peak time)

AF	shot	NSTX shot # (same as A)
AG	GPI peak time (sec)	time of GPI signal peak in sec (same as B)
AH	radius ERD cm	major radius of ERD measurement (cm)
AI	Ti_tor (eV)	Ti at ERD measurement in toroidal view (eV)
AJ	V_tor (km/sec)	toroidal velocity at ERD measurement (km/sec)

AK	V_pol (km/sec)	poloidal velocity at ERD measurement (km/sec)
AL	Rsep-Rerd (cm)	distance from ERD measurement to separatrix (cm)
AM	Ti(ERD)/Te(Thom.)	Ti from ERD / Te from Thomson

Results from cross-correlation analysis at radius of ρ = -2 cm

AO	shot	NSTX shot #
AP	time	time of correlation analysis (GPI peak time)
AQ	radius	center of 2 cm wide radial correlation zone (cm)
AR	rms -2 cm	rms/mean @ -2 cm
AS	tau -2 cm	autocorrelation time @ -2 cm (μsec)
AT	Lpol -2 cm	poloidal correlation length @ -2 cm (cm)
AU	Lrad -2 cm	radial correlation length @ -2 cm (cm)
AV	Vpol -2 cm	poloidal velocity @ -2 cm (km/sec)
AW	Vrad -2 cm	radial velocity @ -2 cm (km/sec)
AX	Lpol/Vpol -2 cm	Lpol/Vpol @ -2 cm (in μsec)

Results from cross-correlation analysis at radius of ρ = 0 cm

AZ	shot	NSTX shot #
BA	time	time of correlation analysis (GPI peak time)
BB	radius	center of 2 cm wide radial correlation zone (cm)
BC	rms 0 cm	rms/mean @ 0 cm
BD	tau 0 cm	autocorrelation time @ 0 cm (μsec)
BE	Lpol 0 cm	poloidal correlation length @ 0 cm (cm)
BF	Lrad 0 cm	radial correlation length @ 0 cm (cm)
BG	Vpol 0 cm	poloidal velocity @ 0 cm (km/sec)
BH	Vrad 0 cm	radial velocity @ 0 cm (km/sec)
BI	Lpol/Vpol 0 cm	Lpol/Vpol @ 0 cm (in μsec)

Results from cross-correlation analysis at radius of ρ = +2 cm

BK	shot	NSTX shot #
BL	time	time of correlation analysis (GPI peak time)
BM	radius	center of 2 cm wide radial correlation zone (cm)
BN	rms +2 cm	rms/mean @ +2 cm
BO	tau +2 cm	autocorrelation time @+2 cm (μsec)
BP	Lpol +2 cm	poloidal correlation length @ +2 cm (cm)
BQ	Lrad +2 cm	radial correlation length @ +2 cm (cm)
BR	Vpol +2 cm	poloidal velocity @ +2 cm (km/sec)
BS	Vrad +2 cm	radial velocity @ +2 cm (km/sec)
BT	Lpol/Vpol +2 cm	Lpol/Vpol @ +2 cm (in μsec)

Results from cross-correlation analysis at radius of ρ = +4 cm

BV	shot	NSTX shot #
BW	time	time of correlation analysis (GPI peak time)
BX	radius	center of 2 cm wide radial correlation zone (cm)
BY	rms +4 cm	rms/mean @ +4 cm
BZ	tau +4 cm	autocorrelation time @ +4 cm (μsec)

CA	Lpol +4 cm	poloidal correlation length @ +4 cm (cm)
CB	Lrad +4 cm	radial correlation length @ +4 cm (cm)
CC	Vpol +4 cm	poloidal velocity @ +4 cm (km/sec)
CD	Vrad +4 cm	radial velocity @ +4 cm (km/sec)
CE	Lpol/Vpol +4 cm	Lpol/Vpol @ +4 cm (in μsec)

Results from blob analysis at radius of ρ = -2 cm

CG	shot	NSTX shot # (same as A)
CH	time	time of blob analysis (GPI peak time)
CI	radius	center of blob analysis zone in cm
CJ	Vpol_1 (km/s)	poloidal blob velocity (km/sec) @ ρ = -2 cm
CK	Vrad_1 (km/s)	radial blob velocity (km/sec) @ ρ = -2 cm
CL	Lpol_1 (cm)	poloidal blob scale length (cm) @ ρ = -2 cm
CM	Lrad_1 (cm)	radial blob scale length (cm) @ ρ = -2 cm
CN	NBlob_1	number of blobs in radial zone @ ρ = -2 cm
CO	aveHt_1	height (amplitude) of blobs @ ρ = -2 cm
CP	ellip_1	blob ellipticity @ ρ = -2 cm
CQ	tilt_1	blob tilt angle (degrees) @ ρ = -2 cm

Results from blob analysis at radius of ρ = 0 cm

CS	shot	NSTX shot # (same as A)
CT	time	time of blob analysis (GPI peak time)
CU	radius	center of blob analysis zone in cm
CV	Vpol_2 (km/s)	poloidal blob velocity (km/sec) @ ρ = 0 cm
CW	Vrad_2 (km/s)	radial blob velocity (km/sec) @ ρ = 0 cm
CX	Lpol_2 (cm)	poloidal blob scale length (cm) @ ρ = 0 cm
CY	Lrad_2 (cm)	radial blob scale length (cm) @ ρ = 0 cm
CZ	NBlob_2	number of blobs in radial zone @ ρ = 0 cm
DA	aveHt_2	height (amplitude) of blobs @ ρ = 0 cm
DB	ellip_2	blob ellipticity @ ρ = 0 cm
DC	tilt_2	blob tilt angle (degrees) @ ρ = 0 cm

Results from blob analysis at radius of ρ = +2 cm

DE	shot	NSTX shot # (same as A)
DF	time	time of blob analysis (GPI peak time)
DG	radius	center of blob analysis zone in cm
DH	Vpol_3 (km/s)	poloidal blob velocity (km/sec) @ ρ = +2 cm
DI	Vrad_3 (km/s)	radial blob velocity (km/sec) @ ρ = +2 cm
DJ	Lpol_3 (cm)	poloidal blob scale length (cm) @ ρ = +2 cm
DK	Lrad_3 (cm)	radial blob scale length (cm) @ ρ = +2 cm
DL	NBlob_3	number of blobs in radial zone @ ρ = +2 cm
DM	aveHt_3	height (amplitude) of blobs @ ρ = +2 cm
DN	ellip_3	blob ellipticity @ ρ = +2 cm
DO	tilt_3	blob tilt angle (degrees) @ ρ = +2 cm

Results from blob analysis at radius of ρ = +4 cm

DQ	shot	NSTX shot # (same as A)
DR	time	time of blob analysis (GPI peak time)
DS	radius	center of blob analysis zone in cm
DT	Vpol_4 (km/s)	poloidal blob velocity (km/sec) @ ρ = +4 cm
DU	Vrad_4 (km/s)	radial blob velocity (km/sec) @ ρ = +4 cm
DV	Lpol_4 (cm)	poloidal blob scale length (cm) @ ρ = +4 cm
DW	Lrad_4 (cm)	radial blob scale length (cm) @ ρ = +4 cm
DX	NBlob_4	number of blobs in radial zone @ ρ = +4 cm
DY	aveHt_4	height (amplitude) of blobs @ ρ = +4 cm
DZ	ellip_4	blob ellipticity @ ρ = +4 cm
EA	tilt_4	blob tilt angle (degrees) @ ρ = +4 cm

Additional blob analysis

EC	shot	NSTX shot # (same as A)
ED	time	time of blob analysis (GPI peak time)
EE	blob lifetime (μs)	whole lifetime of blobs across image
EF	Nblobs in frame	number of blobs in image per frame