DIAGNOSTIC STUDY OF PROMINENCE-CORONA INTERFACE[+]

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Theoretical EUV line intensity ratios from Ne V, Ne VI, Mg VI, Mg VII, and Mg VIII are useful for electron density determinations within prominence-corona interface (PCI). Skylab observations of an eruptive prominence [1] have been used to infer electron density within PCI. The physical parameters thus derived are given in Table . The 'a' values are from [2]. The 'b' row values and the values for Mg VI and Ne VI are from [1]. The Mg VIII values are from [3]. The new values for the pressure parameter are given in set 'B' of Table 1.

Table 1. Physical parameters for a prominence-corona interface

Ion	A:	T_e	N_e	$N_e T_e$	B:	T_e	N_e	$N_e T_e$
Ne V	a	2.5+5[X]	1.85+8	4.63+13		2.5+5	4.63+9	1.16+15
	b	2.5+5	5.44+9	1.36+15				
Mg VI Ne VI		4.0+5	1.10+9	4.40+ 14		4.0+5	1.50+9	6.00+14
Mg VII	a	5.0+5	3.69+9	1.85+15		5.0+5	1.00+9	5.00+14
	b	5.0+5	3.41+10	1.71+16				
Mg VIII		8.0+5	5.80+8	4.64+14		8.0+5	5.80+8	4.64+14

[X]2.5+5 means 2.5 x 10^5

It would be necessary to obtain accurate line intensities for many more lines in order to model the P-C interface.

References

1. K.G.Widing, U.Feldman and A.K.Bhatia: (1986) Astrophys. J. 308, 982.

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3. B.N.Dwivedi: (1988), Solar Phys., 116, 405.

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