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APPENDIX-A

A.1 FIGURES

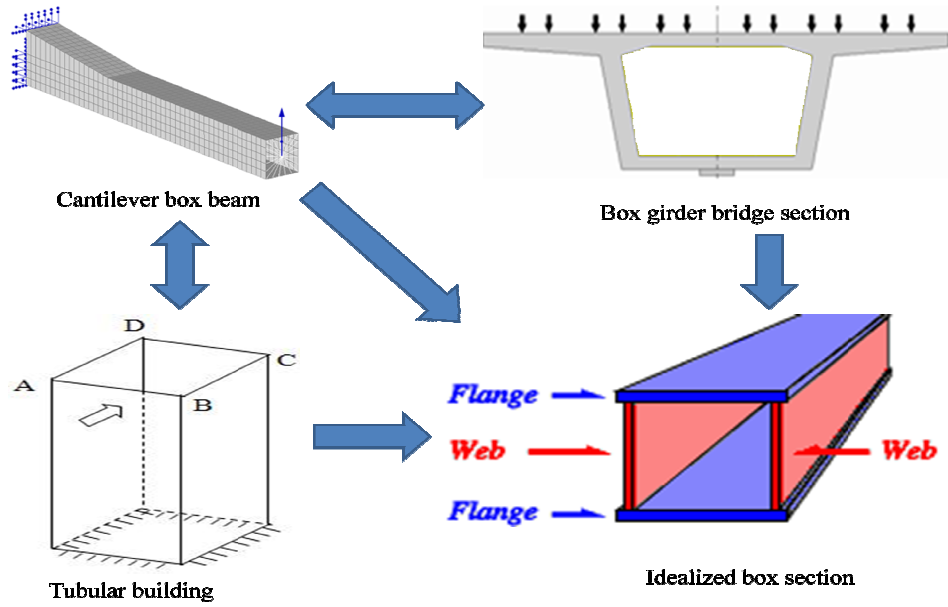


Fig. A.1. Idealization of tubular structures in box beam

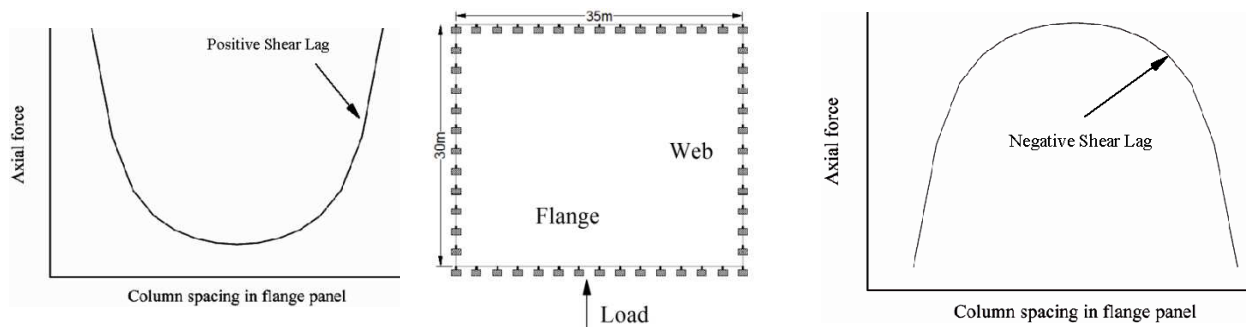


Fig. A. 2. Definition of positive and negative shear lag

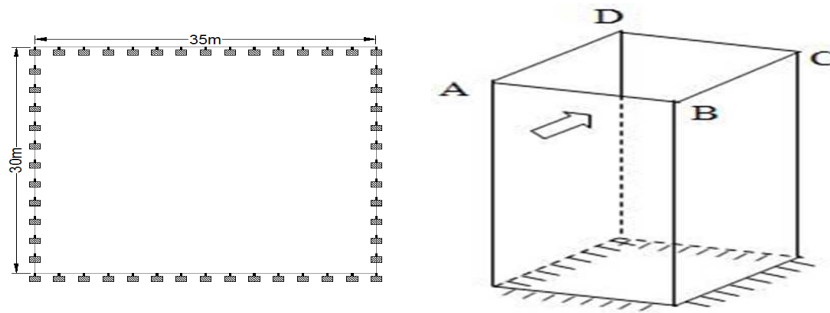


Fig. A.3. Plan and elevation of typical tubular buildings

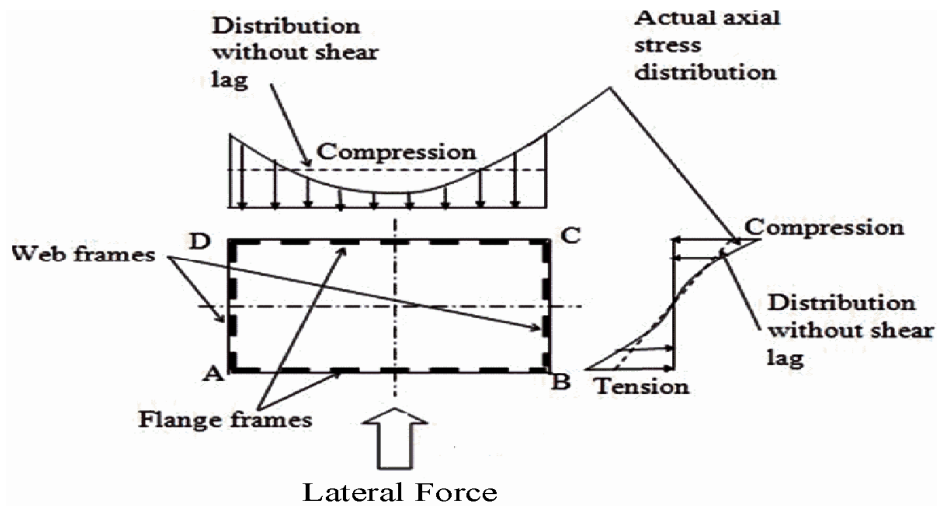


Fig. A.4. Variations of stresses in flange and web of tubular building

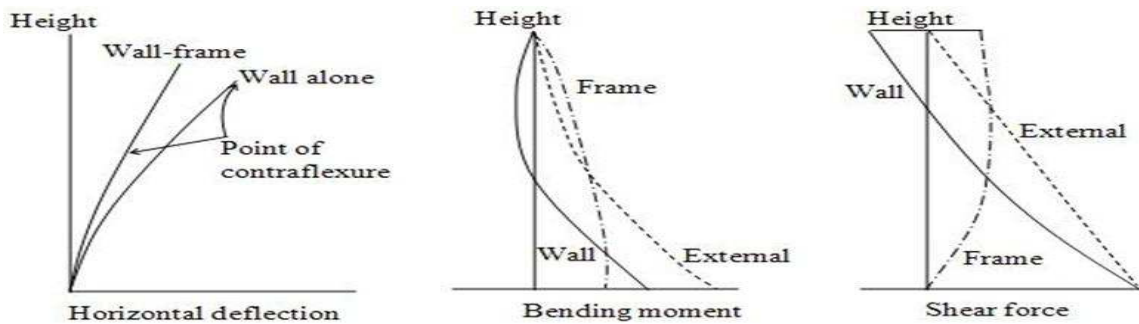


Fig. A.5. Load resisting mechanism in tubular building under lateral loads

A.2 TABLES

Table A.1. Validation of results and statical check

Axial force (kN) distribution in flange and web columns at the base of tubular building (Fig. A.3) analysed by different methods (for beam and column stiffness I)						
Location of column from corner (m)	STAAD Pro.V8i (2007)	Matrix method (Ha et al., 1978)	Haji-Kazemi & Company (2002)	Kwan (1994)	Coull and Bose (1975)	Finite Element Analysis
-17.5	712.99	924.53	924.53	924.53	943.40	718.29
-15	732.15	943.40	943.40	943.40	971.70	737.44
-12.5	793.05	981.13	981.13	1056.60	1075.47	798.29
-10	907.76	1075.47	1075.47	1226.42	1226.42	912.73
-7.5	1104.71	1226.96	1226.96	1433.96	1433.96	1108.8
-5	1455.80	1509.43	1509.43	1735.85	1735.85	1457.5
-2.5	2194.04	1971.70	1971.70	2094.34	2094.34	2188.7
0	3669.96	3000.00	2801.89	2339.62	2386.79	3683.5
2.5	1694.04	1830.19	1830.89	1867.93	1867.93	1629.8
5	1095.63	1226.42	1226.42	1358.49	1358.49	1071.5
7.5	720.41	830.19	801.89	943.40	943.40	709.16
10	442.74	509.43	509.43	584.91	584.91	435.11
12.5	213.00	243.28	245.28	301.89	301.89	206.02
15	3.71	0.00	0.00	0.00	0.00	-3.86
Σ	15739.99	16272.13	16048.42	16811.32	16924.53	15652.98
% Deviation from Matrix Method	-3.27	0.00	-1.37	3.31	4.01	-3.80