

Relations de saut à travers un choc droit

Indices:

- 1 : Quantités juste avant l'onde de choc (amont)
- 2 : Quantités juste après l'onde de choc (aval)
- $i, 1$: Quantités d'arrêt isentropiques en amont de l'onde de choc
- $i, 2$: Quantités d'arrêt isentropiques en aval de l'onde de choc

Relations de saut:

$$M_2^2 = \frac{2 + (\gamma - 1)M_1^2}{2\gamma M_1^2 + 1 - \gamma} \quad (1)$$

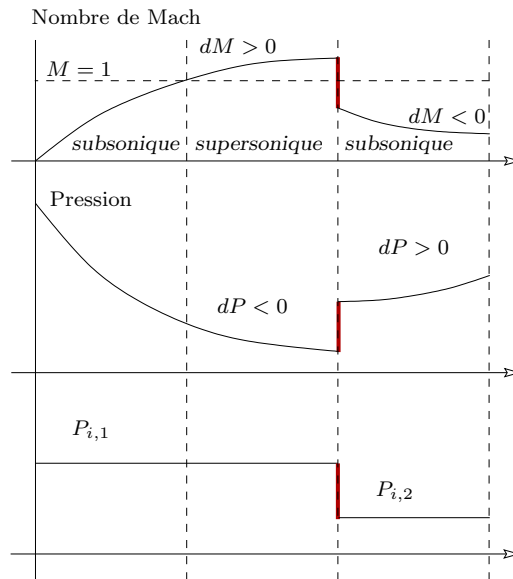
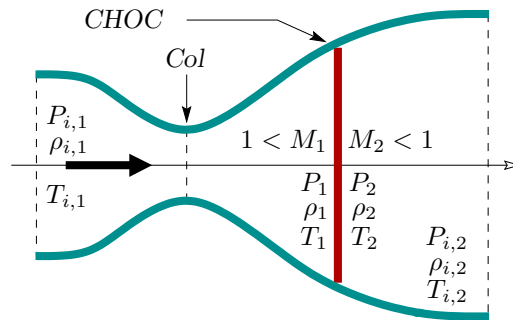
$$\frac{P_2}{P_1} = 1 + \frac{2\gamma}{\gamma + 1} (M_1^2 - 1) \quad (2)$$

$$\frac{\rho_2}{\rho_1} = \frac{(\gamma + 1)M_1^2}{2 + (\gamma - 1)M_1^2} \quad (3)$$

$$\frac{T_2}{T_1} = (2\gamma M_1^2 + 1 - \gamma) \frac{2 + (\gamma - 1)M_1^2}{(\gamma + 1)^2 M_1^2} \quad (4)$$

$$T_{i,2} = T_{i,1} \quad (5)$$

$$\frac{P_{i,2}}{P_{i,1}} = \frac{\rho_{i,2}}{\rho_{i,1}} = \left\{ \frac{(\gamma + 1)^{\gamma+1} M_1^{2\gamma}}{(2\gamma M_1^2 + 1 - \gamma) [2 + (\gamma - 1)M_1^2]^\gamma} \right\}^{\frac{1}{\gamma - 1}} \quad (6)$$



M_1	M_2	P_2/P_1	ρ_2/ρ_1	T_2/T_1	$P_{i,2}/P_{i,1}$
1.00	1.000	1.0000	1.0000	1.0000	1.00000
1.02	0.981	1.0472	1.0334	1.0134	0.99999
1.04	0.962	1.0953	1.0669	1.0266	0.99992
1.06	0.944	1.1444	1.1007	1.0397	0.99975
1.08	0.928	1.1944	1.1346	1.0527	0.99943
1.10	0.912	1.2454	1.1687	1.0656	0.99893
1.12	0.897	1.2972	1.2029	1.0785	0.99822
1.14	0.882	1.3501	1.2372	1.0912	0.99726
1.16	0.868	1.4038	1.2716	1.1040	0.99606
1.18	0.855	1.4585	1.3061	1.1167	0.99458
1.20	0.842	1.5141	1.3407	1.1294	0.99281
1.22	0.830	1.5706	1.3753	1.1420	0.99075
1.24	0.818	1.6281	1.4100	1.1547	0.98838
1.26	0.807	1.6866	1.4446	1.1674	0.98570
1.28	0.796	1.7459	1.4794	1.1802	0.98271
1.30	0.786	1.8062	1.5141	1.1929	0.97941
1.32	0.776	1.8674	1.5488	1.2057	0.97580
1.34	0.767	1.9296	1.5835	1.2186	0.97188
1.36	0.757	1.9927	1.6181	1.2315	0.96765
1.38	0.749	2.0567	1.6527	1.2445	0.96311
1.40	0.740	2.1217	1.6872	1.2575	0.95829
1.42	0.732	2.1876	1.7217	1.2706	0.95317
1.44	0.724	2.2544	1.7561	1.2837	0.94777
1.46	0.716	2.3222	1.7904	1.2970	0.94210
1.48	0.709	2.3909	1.8246	1.3103	0.93616
1.50	0.701	2.4605	1.8587	1.3237	0.92996
1.52	0.694	2.5311	1.8927	1.3373	0.92352
1.54	0.688	2.6026	1.9266	1.3509	0.91684
1.56	0.681	2.6750	1.9603	1.3646	0.90993
1.58	0.675	2.7484	1.9939	1.3784	0.90281
1.60	0.669	2.8227	2.0274	1.3923	0.89549
1.62	0.663	2.8979	2.0607	1.4063	0.88797
1.64	0.657	2.9741	2.0938	1.4204	0.88026
1.66	0.652	3.0512	2.1268	1.4346	0.87238
1.68	0.646	3.1293	2.1596	1.4490	0.86434
1.70	0.641	3.2083	2.1923	1.4635	0.85615
1.72	0.636	3.2882	2.2247	1.4780	0.84781
1.74	0.631	3.3690	2.2570	1.4927	0.83935
1.76	0.626	3.4508	2.2890	1.5075	0.83076
1.78	0.622	3.5336	2.3209	1.5225	0.82206
1.80	0.617	3.6172	2.3526	1.5376	0.81327
1.82	0.613	3.7018	2.3840	1.5527	0.80438
1.84	0.608	3.7873	2.4153	1.5681	0.79541
1.86	0.604	3.8738	2.4463	1.5835	0.78637
1.88	0.600	3.9612	2.4772	1.5991	0.77727
1.90	0.596	4.0495	2.5078	1.6148	0.76811
1.92	0.592	4.1388	2.5382	1.6306	0.75891
1.94	0.589	4.2290	2.5683	1.6466	0.74967
1.96	0.585	4.3201	2.5983	1.6627	0.74040
1.98	0.581	4.4122	2.6280	1.6789	0.73111

M_1	M_2	P_2/P_1	ρ_2/ρ_1	T_2/T_1	$P_{i,2}/P_{i,1}$
2.00	0.578	4.5052	2.6575	1.6953	0.72181
2.02	0.575	4.5991	2.6867	1.7118	0.71250
2.04	0.571	4.6940	2.7157	1.7285	0.70319
2.06	0.568	4.7898	2.7445	1.7452	0.69389
2.08	0.565	4.8866	2.7730	1.7622	0.68460
2.10	0.562	4.9842	2.8013	1.7792	0.67532
2.12	0.559	5.0829	2.8294	1.7964	0.66607
2.14	0.556	5.1824	2.8572	1.8138	0.65686
2.16	0.553	5.2829	2.8848	1.8313	0.64767
2.18	0.551	5.3843	2.9122	1.8489	0.63853
2.20	0.548	5.4867	2.9393	1.8667	0.62943
2.22	0.545	5.5899	2.9662	1.8846	0.62038
2.24	0.543	5.6942	2.9928	1.9026	0.61139
2.26	0.540	5.7993	3.0192	1.9208	0.60245
2.28	0.538	5.9054	3.0453	1.9392	0.59357
2.30	0.535	6.0124	3.0712	1.9577	0.58476
2.32	0.533	6.1204	3.0969	1.9763	0.57601
2.34	0.531	6.2293	3.1223	1.9951	0.56734
2.36	0.528	6.3391	3.1475	2.0140	0.55873
2.38	0.526	6.4499	3.1725	2.0331	0.55021
2.40	0.524	6.5616	3.1972	2.0523	0.54176
2.42	0.522	6.6742	3.2217	2.0717	0.53339
2.44	0.520	6.7878	3.2459	2.0912	0.52511
2.46	0.518	6.9023	3.2699	2.1108	0.51691
2.48	0.516	7.0177	3.2937	2.1307	0.50879
2.50	0.514	7.1341	3.3172	2.1506	0.50077
2.52	0.512	7.2514	3.3406	2.1707	0.49283
2.54	0.510	7.3696	3.3636	2.1910	0.48498
2.56	0.508	7.4888	3.3865	2.2114	0.47723
2.58	0.507	7.6089	3.4091	2.2319	0.46957
2.60	0.505	7.7300	3.4315	2.2526	0.46200
2.62	0.503	7.8520	3.4537	2.2735	0.45452
2.64	0.501	7.9749	3.4756	2.2945	0.44714
2.66	0.500	8.0987	3.4974	2.3157	0.43985
2.68	0.498	8.2235	3.5189	2.3370	0.43266
2.70	0.497	8.3492	3.5402	2.3584	0.42556
2.72	0.495	8.4759	3.5612	2.3800	0.41856
2.74	0.494	8.6035	3.5821	2.4018	0.41166
2.76	0.492	8.7320	3.6027	2.4237	0.40485
2.78	0.491	8.8615	3.6232	2.4458	0.39814
2.80	0.489	8.9918	3.6434	2.4680	0.39152
2.82	0.488	9.1232	3.6634	2.4904	0.38499
2.84	0.486	9.2554	3.6832	2.5129	0.37857
2.86	0.485	9.3886	3.7028	2.5356	0.37223
2.88	0.484	9.5228	3.7222	2.5584	0.36599
2.90	0.482	9.6578	3.7414	2.5814	0.35985
2.92	0.481	9.7938	3.7604	2.6045	0.35380
2.94	0.480	9.9308	3.7792	2.6278	0.34784
2.96	0.479	10.0686	3.7978	2.6512	0.34197
2.98	0.477	10.2075	3.8162	2.6748	0.33619

