Relations de saut à travers un choc droit

Indices:

Quantités juste avant l'onde de choc (amont) Quantités juste après l'onde de choc (aval)

Quantités d'arrêt isentropiques en amont de l'onde de choc

Quantités d'arrêt isentropiques en aval de l'onde de choc

Relations de saut:

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

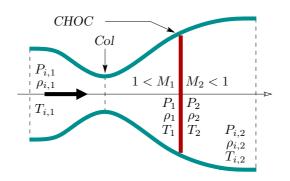
$$\frac{P_2}{P_1} = 1 + \frac{2\gamma}{\gamma + 1} \left(M_1^2 - 1 \right) \tag{2}$$

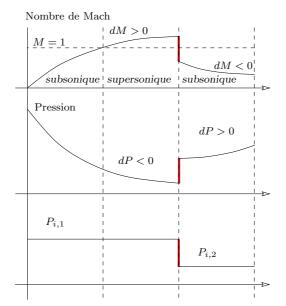
$$\frac{\rho_2}{\rho_1} = \frac{(\gamma+1)M_1^2}{2+(\gamma-1)M_1^2} \tag{3}$$

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

$$T_{i,2} = T_{i,1} \tag{5}$$

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

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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	2.86	0.485	9.3886	3.7028	2.5356	0.37223
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	2.88	0.484	9.5228	3.7222		0.36599
2.94 0.480 9.9308 3.7792 2.6278 0.34784 2.96 0.479 10.0686 3.7978 2.6512 0.34197	2.90	0.482	9.6578	3.7414	2.5814	0.35985
2.96 0.479 10.0686 3.7978 2.6512 0.34197	2.92	0.481	9.7938	3.7604	2.6045	0.35380
	2.94	0.480	9.9308	3.7792	2.6278	0.34784
2.98 0.477 10.2075 3.8162 2.6748 0.33619	2.96	0.479	10.0686	3.7978	2.6512	0.34197
	2.98	0.477	10.2075	3.8162	2.6748	0.33619

