



LUREF2020

Transformation Parameters

Technical Note · Version: 14 July 2026 · Valid: 31 October 2021 – 30 October 2026

The Luxembourgish national reference system is named LURES (LUXembourg REference System). Nowadays, LUREF is realized by the SPSLux GNSS reference stations. Those stations are managed in the European ETRS89 reference system. Due to a re-computation of the SPSLux network in 2020, the ACT recommends applying the following ETRS89-to-LURES transformation parameters in order to compute cartesian LURES coordinates.

Table 1: LUREF2020 parameters for the transition ETRS89 (ETRF2000 @ 2020.82) to LURES, in the Bursa-Wolf and Molodensky-Badekas formulations.

Parameter	Bursa-Wolf	Molodensky-Badekas
T_x [m]	189.2280	265.9196
T_y [m]	-12.0035	-76.9506
T_z [m]	42.6303	-20.2222
R_x ["]	-0.48171	-0.48171
R_y ["]	-3.09948	-3.09948
R_z ["]	2.68639	2.68639
Scale [ppm]	-0.46346	-0.46346

Molodensky-Badekas rotation origin: $X_0 = 4101567.0943$ m, $Y_0 = 440245.0881$ m, $Z_0 = 4848681.4115$ m.