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The Stagger-grid: Synthetic stellar spectra and broad-band photometry

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Resume

The STAGGER-grid (Magic *et al.* 2013) includes 3D stellar atmosphere simulations including hundreds of simulations with different metallicity, effective temperature, and surface gravity. Here we present the synthetic spectra computed for the grid with 3D

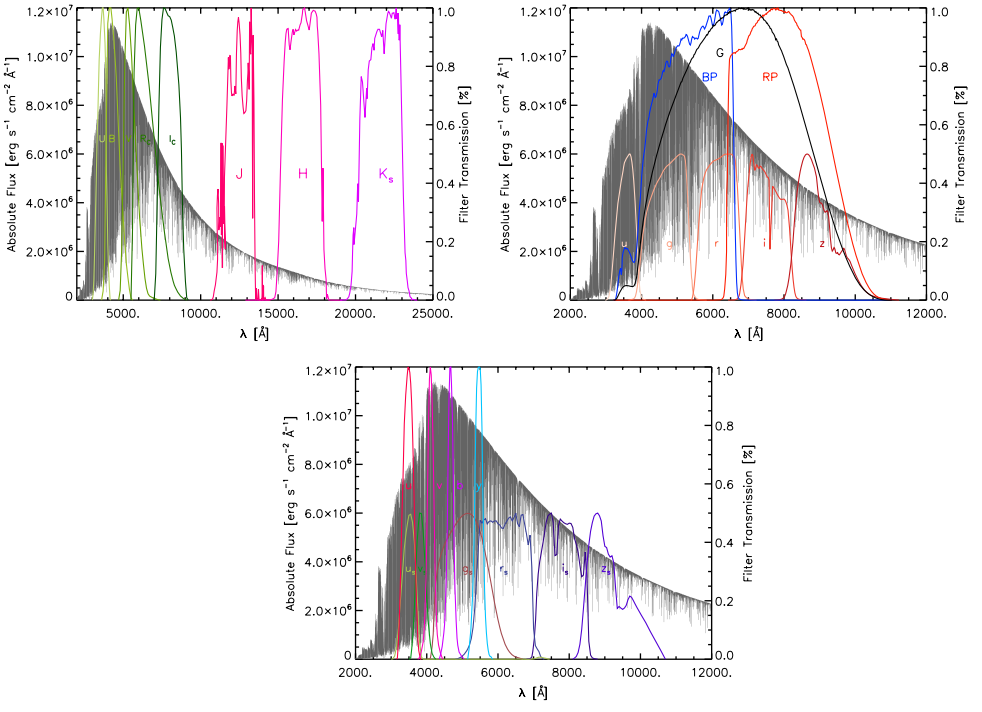

Figure 1. 3D synthetic spectrum of the solar simulation (grey) together with several system response functions: Johnson-Cousins system response functions (U, B, V, Rc, Ic in green), 2MASS in pink-violet, SDSS (u, g, r, i, z in yellow-red), Gaia (BP, RP, G), Strömgren (uvby in red-blue), SkyMapper (u_s, v_s, g_s, r_s, i_s, z_s, and HST-WFC3 (not shown here). For clarity, SDSS and SkyMapper functions are normalised to 0.5. Please refer to Chiavassa *et al.* (2018).

radiative transfer code OPTIM3D (Chiavassa *et al.* 2009). The spectra have been calculated with a constant resolving power of $\lambda/\Delta\lambda$ =20 000 (n_λ = 105 767 wavelength points) from 1000 to 200 000 Å and resolving power of 300 000 from 8470 to 8710 Å (Gaia RVS range).

In addition to this, we computed synthetic colours in the Johnson-Cousins, SDSS, 2MASS, Gaia, SkyMapper, Strömgren, HST-WFC3, and Gaiasystems (Fig. 1). We have made all the spectra publicly available for the community through the POLLUX† database (Palacios *et al.* 2010) and the bolometric corrections through CDS.

The reader should refer to the original paper for the details (Chiavassa *et al.* 2018).

References

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† Available at http://pollux.oreme.org

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