Highlights from the 'Galactic Cold Cores' program

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The *Galactic Cold Cores* Programme has carried out *Herschel* photometric observations of interstellar clouds where the *Planck* satellite all-sky survey has detected a strong signature of cold dust emission. This provides an exciting opportunity for a global study of the pre-stellar source population in a variety of galactic environments including the high latitude sky. The 116 fields observed with Herschel is bringing a large datasets to perform a statistical analysis of the cores and clumps properties and study their possible relation with the characteristics of their host cloud.
We have built a catalogue of about 4000 compact sources using the *Getsources* algorithm, and analysed their main physical parameters (densities, mass, size, temperature,…). Mid-Infrared data have been used along with colour and position criteria to disentangle starless from protostellar sources, and we are comparing their relative properties. A large fraction of our fields are associated with filamentary structures, in a range of environments and star forming conditions. The filaments have been extracted with *Getfilament*, and characterized according to their radial column density profiles, intrinsic properties (NH_2 distribution, linear masses, width, stability) and compact source association.
We will also focus on the properties of the cold cores detected at high-galactic latitudes. The high-latitude molecular clouds are mostly gravitationally unbound and an interesting question to be investigated is how dense cores can form in such tenuous, diffuse environment, and what is their ability to form stars. A detailed analysis on a sample of these clumps/cores is presented, including MCLD 126.6+24.5, an intriguing dense cometary-shape globule detected in the diffuse Polaris Flare cloud.
Finally, we will present our main results on the dust emissivity properties, with a statistical analysis of the dust submm opacity performed on our fields. Although not systematic, we find an increase of the mean opacity value by a factor 2 toward the dense medium compared to the values reported for diffuse dust emission. We interpret it as a sign of grain growth in the densest and coldest regions of interstellar clouds.