

Inverse Problems Network Meeting 2

Thursday, 23rd November 2017 - Friday, 24th November 2017

Isaac Newton Institute, Cambridge

Abstract of Talk

MULTI-DIMENSIONAL SPARSE SUPER-RESOLUTION

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This talk is concerned with the super-resolution problem for positive spikes in arbitrary dimensions. More precisely, I will discuss the issue of support recovery for the so-called BLASSO method. While super-resolution is of paramount importance in overcoming the limitations of many imaging devices, its theoretical analysis is still lacking beyond the 1-dimensional case. The reason is that in the 2-dimensional case and beyond, the relative positions of the spikes enter the picture, and one needs to account for these different geometrical configurations. After presenting an algorithmic description of the limit of the associated dual problems as the spikes cluster around a given point, I will present a detailed analysis of the support stability and super-resolution effect in the case of a pair of spikes. This is joint work with Gabriel Peyre.