Extensions of Levy-Khintchine formula and Beurling-Deny formula in semi-Dirichlet forms setting

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Abstract:

In this talk I shall report a structure result for semi-Dirichlet forms. The result is an extension of the Beurling-Deny formula which is up to now available only for symmetric case. The result can also be regarded as an extension of Levy-Khinchine formula or more generally, an extension of Courrege's Theorem. In the course we developed an integral representation in semi-Dirichlet space. We invented the notions of special quasi-core and symmriric principle value integral which might be also useful in the future study of semi-Dirichlet formes. The talk is based on my recent joint work with Z.Hu and W.Sun.