Rios, Cristian (University of Calgary, Canada) Off-diagonal estimates and weighted elliptic operators

Abstract: We apply Kato square root bounds and full off-diagonal estimates available for weighted elliptic operators, together with a framework developed by Auscher and Martell to obtain several results, including a functional calculus, weighted L^p Kato estimates, and Riesz transform bounds. As an interesting application, we obtain sufficient conditions on the weights so that the corresponding weighted elliptic operators satisfy unweighted Kato bounds. This is a joint project with David Cruz-Uribe and José María Martell.