

GROUPOID ALGEBRAS

SHENGZHI XU

Fudan University, Shanghai 200433, P. R. China

ABSTRACT. In this minicourse, we will discuss groupoids and their related convolution algebra and C^* -algebras. Regarding spaces, groups and equivalence relations as examples, groupoids are considered to be the most concrete noncommutative spaces in the realm of noncommutative geometry. They appear in operator algebra, index theory and homotopy theory. They play roles in operator K-theory and differential equations as well as differential geometry and kinematics. Many interesting algebras, such as elementary ones, AF ones, and Cuntz ones, find their roots in the soil of groupoids.