

1165-52-275

**Sang Woo Ryo\***, Fine Hall, Washington Rd, Princeton, NJ 08544-1000. *A sharp form of Assouad's embedding theorem for Carnot groups.*

Assouad's embedding theorem, which embeds snowflakes of doubling metric spaces into Euclidean spaces, has recently been sharpened in many different aspects. Following the work of Tao, which establishes an optimal Assouad embedding theorem for the Heisenberg group, we establish it for general Carnot groups. One main tool is a Nash–Moser type iteration scheme developed by Tao, which we extend into the setting of Carnot groups. The other tool, which is the main novelty of this paper, is a certain orthonormal basis extension theorem in the setting of general doubling metric spaces. We anticipate that this latter tool could be used for other applications. (Received January 19, 2021)