## Inclusion relations between $L^p$-Sobolev and Wiener amalgam spaces

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**Abstract** We determined optimal inclusion relations between $L^p$- Sobolev and Wiener amalgam spaces. For applications, we discuss mapping properties of unimodular Fourier multipliers $e^{i|D|^\alpha}$ between $L^p$-Sobolev and Wiener amalgam spaces and derive some Littlewood-Paley type inequalities.

This talk is based on joint work with Dr. Jayson Cunanan (Shinshu University) and Professor. Mitsuru Sugimoto (Nagoya University).

### Bibliography

[1] J. Cunanan, M. Kobayashi, M. Sugimoto, Inclusion relations between $L^p$- Sobolev and Wiener amalgam spaces. J. Funct. Anal. 268 (2015), 239–254.