

Mathematical methods of signal and image processing

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Presence exercise sheet 6

Problem 1

Show that: For $f, g \in L^1(\mathbb{R}^d, \mathbb{C})$, we have

$$\int_{\mathbb{R}^d} (\mathcal{F}f)(x)g(x) \, dx = \int_{\mathbb{R}^d} f(x)(\mathcal{F}g)(x) \, dx .$$

(This is the proof of Lemma 3.8)