

I read through section 1.6 of Kumano-go's textbook.

1. Is it enough to assume $\chi(\eta) = \exp(-|\eta|^2/2)$? Then, it is easy to claim

$$\int \overline{\mathcal{F}}[\chi](y') dy' = 1$$

by the formula: $\overline{\mathcal{F}}[\exp(-|\xi|^2/2)](x) = (2\pi)^{-n/2} \exp(-|x|^2/2)$. Of course, $\chi \in \mathcal{S}$ with $\chi(0) = 1$.

2. We prove that $\overline{\mathcal{F}}\mathcal{F} = I$ on \mathcal{S} again since $\mathcal{B} \supset \mathcal{S}$.