

PMATH 810, Winter 2015

Talk Topics

1. A simple proof of the existence of the Haar integral on locally compact abelian groups. A. Izzo, *Proc. Amer. Math. Soc.*, 115 (1992), no. 2, 581–583.
2. Invariant measures on homogeneous spaces G/H (H non-normal). Reiter and Stegeman, *Classical Harmonic Analysis and Locally Compact Groups*, section 8.1.
3. Cohen’s factorization theorem: for any G module \mathcal{X} , and ξ in \mathcal{X} , there are f in $L^1(G)$ and ξ' in \mathcal{X} such that $\xi = f \cdot \xi'$. Bonsall and Duncan, *Normed Algebras*, section 1.11.
4. Ideals in $L^1(G)$ for compact G . Hewitt and Ross, *Abstract Harmonic Analysis II*, (38.13).
5. Idempotent measures on compact abelian groups. Dunkl and Ramirez, *Topics in Harmonic Analysis*, chapter 6, section 2.
6. Idempotent probability measures on locally compact groups. J. Pym, *Pacific J. Math.* 12 (1962) 685–698; using J. Wendel, *Proc. Amer. Math. Soc.* 5 (1954), 923–929.
7. Free groups in $SO(3)$ and $SU(2)$. Hoffman and Morris, *The Structure of Compact Groups*, pps. 280-282.
8. Structure theory for abelian groups. Rudin, *Fourier analysis on groups*, sections 2.3 and 2.4.
9. Metrizable locally compact groups, Hewitt and Ross, *Abstract Harmonic Analysis I*, (8.1)–(8.6).
10. Positive definite functions are of the form $\langle \pi(\cdot)\xi | \xi \rangle$. Folland, *A Course in Abstract Harmonic Analysis*, pps. 76–79.
11. Paradoxical decompositions and the Banach-Tarski paradox. V. Runde *Lectures on Amenability*, section 0.1.