1023-22-947 **W. W. Comfort*** (wcomfort@wesleyan.edu), Department of Mathematics & Computer Science, Wesleyan Station, Wesleyan University, Middletown, CT 06459, and **Jan van Mill** (vanmill@cs.vu.nl), Faculteit Exacte Wetenschappen, Vrije Universiteit, De Boelelaan 1081A, 1081 HV Amsterdam, Netherlands. *The supremum of the set of pseudocompact group topologies.*

The *Bohr topology* on an infinite (discrete) abelian group G is the topology $\mathcal{T}^{\#}$ induced by $\mathrm{Hom}(G, \mathbb{T})$. These facts are known: (a) $(G, \mathcal{T}^{\#})$ is totally bounded ("precompact", in the terminology of many authors); (b) $(G, \mathcal{T}^{\#})$ is not pseudocompact—that is, it is not G_δ-dense in its (compact) Weil completion; (c) $\mathcal{T}^{\#}$ contains every totally bounded group topology on G, in particular every pseudocompact group topology.

The authors conjecture that for every abelian G which admits a pseudocompact group topology $\mathcal{U}$, the supremum of the set of all such topologies is $\mathcal{T}^{\#}$. They have established this, so far, in case (1) G is a torsion group, or (2) $\mathcal{U}$ may be chosen so that $\omega \leq w(G, \mathcal{U}) \leq \mathfrak{c}$. (Received September 23, 2006)