1025-19-262   **Wolfgang Lück**, **Holger Reich**, **John Rognes** and **Marco Varisco***
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SUNY, Binghamton, NY 13902-6000. *Algebraic K-Theory of Group Rings and Topological Cyclic
Homology.*

We use topological cyclic homology and the cyclotomic trace to detect elements in $K_n(\mathbb{Z}G) \otimes_{\mathbb{Z}} \mathbb{Q}$, the rationalized higher algebraic K-theory groups of an integral group ring. Modulo a conjecture in number theory, the so-called Schneider conjecture, and under mild homological finiteness conditions on the group G, we prove that the Farrell-Jones assembly map in connective algebraic K-theory for the family of virtually cyclic subgroups is rationally injective. This generalizes a result of Bökstedt, Hsiang and Madsen, and leads to a concrete description of a large direct summand inside $K_n(\mathbb{Z}G) \otimes_{\mathbb{Z}} \mathbb{Q}$. Along the way we also prove integral splitting and isomorphism results for assembly maps in topological Hochschild homology and topological cyclic homology with arbitrary coefficients. (Received January 23, 2007)