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Margaret H Dean, Stephen Majewicz and Marcos Zyman* (mzyman@bmcc.cuny.edu),
BMCC, CUNY Mathematics Department, 199 Chambers St., New York, NY 10007. *Towers of
IA-automorphisms*. Preliminary report.

For any group G , let $IA(G)$ be the subgroup of $Aut(G)$ consisting of those automorphisms that induce the identity on G/G' , where G' is the commutator subgroup of G . Let $G_1 = IA(G)$ and $G_i = IA(G_{i-1})$ for $i > 1$. Since $Inn(G_i) \leq G_{i+1}$, a homomorphism from G_i to G_{i+1} is obtained by mapping each element G_i to the inner automorphism it gives rise to. This induces a sequence of groups and homomorphisms called the *IA-tower* of G . The *IA-tower* terminates if there is an m for which G_m has trivial center and such that $Inn(G_m) = IA(G_m)$. The least such m is the *height* of the tower. In this talk, I will discuss some preliminary results regarding the height of the *IA-towers* of certain nilpotent and center-by-metabelian groups. (Received September 22, 2011)