

## ***Interactive comment on “Closing a gap in tropical forest biomass estimation: accounting for crown mass variation in pantropical allometries” by P. Ploton et al.***

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Dear Pierre et al.

Congratulations for this very interesting contribution and closing such a gap. While reading your manuscript, I was strike by your definition of trunk height. The first definition is found on p. 1979 in reference to Equ.2, and it says: "Ht the trunk height (i.e., height to the first living branch, in m)." It seems that Ht is not used in Equ.2. It is not clear, if you refer to H (H total) or define Ht here.

More importantly, your definition of Ht is questionable. The height to the first living

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branch is generally known as clear-bole height or branch-free section of the bole. Based on your definition of crown depth ( $H - H_t$ , same page),  $H_t$  also refers to the length to crown base. While lower branches generally self-prune with ontogeny until the crown is formed, small unreiterated or epicormics branches may still be found below crown base (Nicolini et al. 2003, Barthélémy & Caraglio 2007, Rutishauser et al. in press). Hence, defining and measuring trunk height is not trivial. A clear differentiation between trunk and crown might even be challenging in several tropical tree species or along ontogeny (but I am not familiar with African trees). Without going too far into this architectural prognosis, the height to the first living branch often doesn't relate to crown base. I recommend to spend some time on this aspect and clarify your definition, given the importance it has in your study.

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**BGD**

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