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## 1 Introduction

Yes these are the correct steps. You can fit some simple analytic forms to  $\text{Log}(\Phi(L'))$  to  $\text{Log}(L')$  and to  $\text{Log}(\sigma(z))$  to  $\log(1+z)$ . The derivatives of these will give  $\psi$  and  $\rho$  as given by our equations.

## 2 next email

1. In L-Z diagram the Associated Set of source  $(L_i, z_i)$  for ranking in L or getting  $\dot{\sigma}(z)$  is defined as  $z_j < z_i$  and  $L_j > L_{i,\text{lim}}$  and for ranking in z or getting  $\Phi(L)$  is defined as  $L_j > L_i$  and  $z_j < z_{i,\text{max}}$ .

in L-Lmin diagram you essentially replaced z by Lmin. So the Associated Set of source  $(L_i, L_{\text{min}i})$  for ranking in L or getting  $\Psi(L_{\text{min}})$  is defined as  $L_{\text{min},j} < L_{\text{min},i}$  and  $L_j < L_{i,\text{lim}}$ .

Once you get  $\Psi(L_{\text{min}})$  you can calculate  $\dot{\sigma}(z) = \Psi(L_{\text{min}})(dL_{\text{min}}(z)/dz)$ .

And for ranking in  $L_{\text{min}}$  or getting  $\phi(L)$  is defined as  $L_j > L_i$  and  $L_{\text{min},j} < L_{\text{min},i}$ .