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Interactive comment on "Hydrograph separation: an impartial parametrization for an imperfect method" *by* Antoine Pelletier and Vazken Andréassian

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A first approximation of a baseflow hydrograph

I appreciate the prompt response to my request for an NISR-transformed hydrograph plot for the Petit Thérain river. The two additional plots the authors provided for Vair and Virène rivers and their positive comment are much appreciated.

Their new set of the recession equations (2) and (3) can be combined and the sign

changed to an explicit form of the NISR-transformed recession curve as follows:

$$-\frac{1}{\sqrt{R(t)}} = -\frac{1}{\sqrt{R(t_0)}} - \frac{1}{\sqrt{S\Delta T}}(t - t_0),$$

For the Vair river (new Figure 1) having a lowest baseflow index (BFI) of 0.11 among the three rivers, the resemblance among the annual cyclical variations is stunning.

The measured falling limb ordinates, say, $Q_-(t) = Q(t)$ whenever $-1/\sqrt{Q(t)} < -1/\sqrt{Q(t-1)}$, are indicative or first approximation of a baseflow hydrograph.

For the Vair river at least, can the authors please show all these falling limbs $Q_-(t)$, the computed baseflows $R(t)$, and the differences between the two, $Q_-(t) - R(t)$?

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