My thanks to Referee #5 for comment. Responses are indicated below.

The technical note focusses at a single point that in a pdf describing a breakthrough experiment in an catchment f(t=0) must be zero by necessity. Distributions fitted to breakthrough curves not fulfilling this criterion are termed "L-shaped" by the author. He proposes to avoid them.

No – distributions with f(0) > 0 are not defined to be L-shaped. See responses to Reviewer #1 and Reviewer #2, who make the same assertion. Some alternative distributions are now proposed (see response to Reviewer #4) so the "single point" aspect should no longer apply.

The argument would benefit from having its physical aspects more clearly delineated from its mathematical aspects. In many cases the problematic assumption is stationarity as a prerequisite for using pdfs for describing breakthrough curves in the first place. Furthermore, does the argument still hold when mathematical descriptions of what is termed "store" employ fractal dimensions?

The paper is essentially a mathematical argument with respect to the nature of first passage times. This argument needs no reference to stationarity. See response to Referee #4 for further comment re fractal dimensions.

It can be quite hard to show that something is impossible within a given formal framework. The part of hydrology addressed by this technical does not have such an accepted theory, tracer hydrology includes many pragmatic approaches.

It can in fact be very easy to do just that within a formal framework – see response to Reviewer #3. Pragmatism is no justification for incorrectness when there are alternatives available – see also response to Reviewer #4.

The most unclear point to me is the idealized catchment employed in the thought argument. The argument by the author seems to assign a physical storage to this ideal catchment with definite physical features.

The only physical requirement is that the catchment has spatial dimension (obviously). It is not idealized in any way and may or may not contain biota. What is idealized is the perfect instrumentation and the conceptual tracer, in order to make the point.

One could envision a second thought experiment in which the boundary of a natural catchment containing biota is entirely defined by observations of fluxes across them. Its external relations are described in classes of behavioral equivalence (similar to theoretical descriptions of computer programs) and any assignment of local internal properties becomes an over-interpretation of the available data.

I am unsure of the intended meaning here, but the thought experiment does not involve any assignment of local internal properties.

And of course, as already brought up in the ongoing discussion, input fluxes may hit the boundary producing output.

For any storage with spatial dimension an input flux can only produce output through a boundary at the same time if the particles contained within the flux travel at infinite speed.