Author's response to public review:

The title was changed to : Convolutional Neural Networks for specific and merged data sets of Optical Array Probe images : Compatibility of retrieved morphology dependent size distributions.

The motivation of this change is to differentiate the article from other publications which focus on training classification algorithms and focus on the second part of the paper. By doing this we hope to clear some of the confusion concerning the novelty of the article.

The abstract and the introductions have been reworked slightly to insist on the novelty of the work, discuss additionnal references of studies that used similar methodologies, and show the usefulness of our work for the scientific community.

Subsection 2.1 has been renamed "Morphological classes" (earlier "Data and Morphological classes").

Additional *CNN* information has been added in section 2 in the form of a schematic as was stated in reply to RC1 (https://doi.org/10.5194/egusphere-2024-1910-AC1). This part of the article is easily reproducible thanks to the open access Github repository that contains all used images used for the CNN models.

Acronyms are now defined from the beginning (which includes the abstract). In particular, probe and institute names will be fully written, the first time they are used.

Grammar has been checked once more.