Welas2300 Data Recalculator

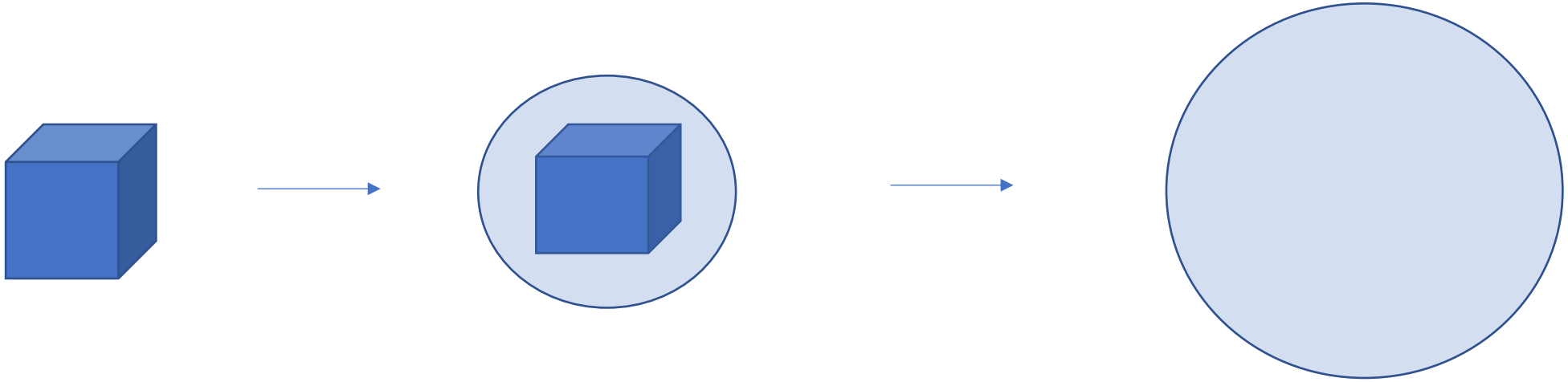
Diameter:
400nm

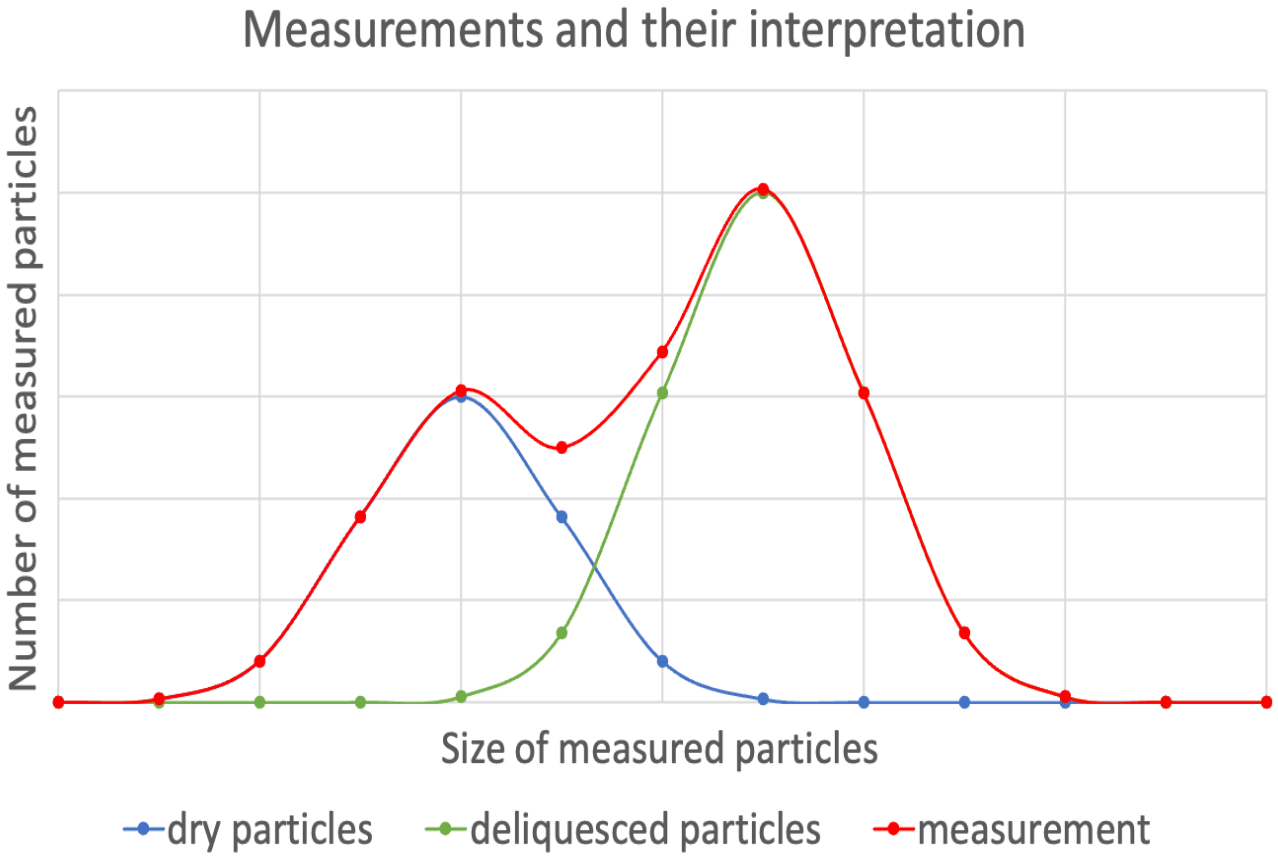
Refractive
index: 1.54

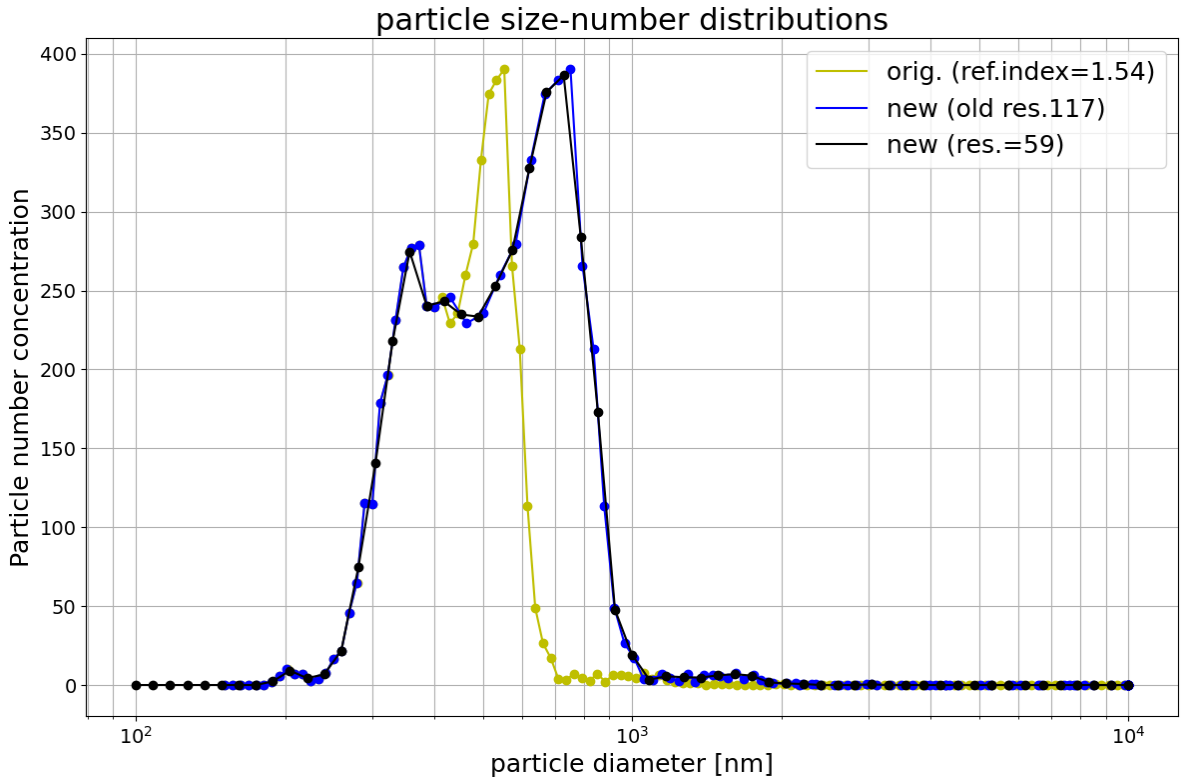
Dynamically changing refractive index,
dependent on size of particle

Diameter:
700nm

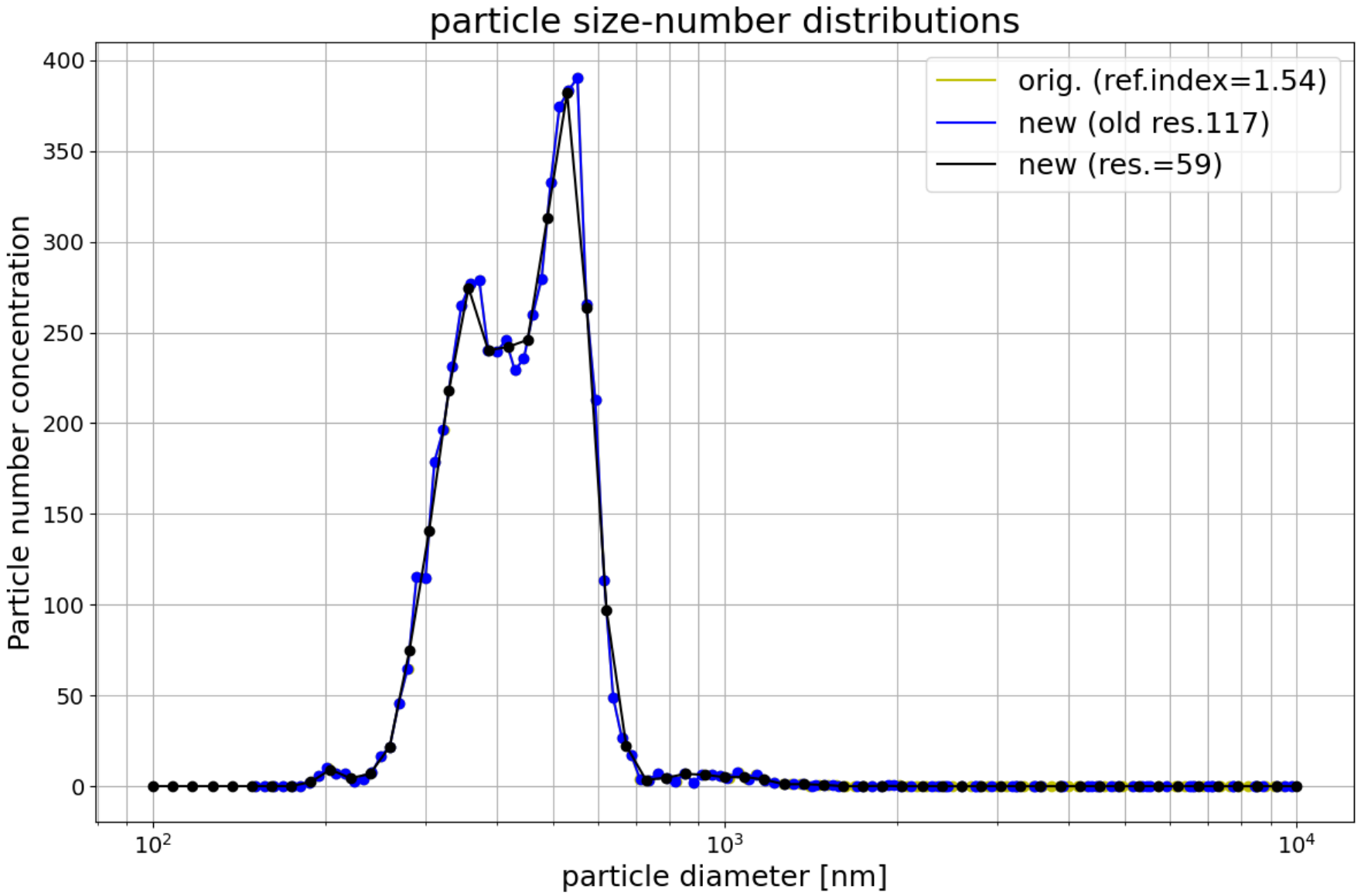
Refractive
index: 1.38




Measurements and their interpretation
Number of measured particles
Size of measured particles
dry particles
deliquesced particles
measurement


particle size-number distributions
Particle number concentration
particle diameter [nm]
orig. (ref.index=1.54)
new (old res.117)
new (res.=59)
0
50
100
150
200
250
300
350
400
10^2
10^3
10^4

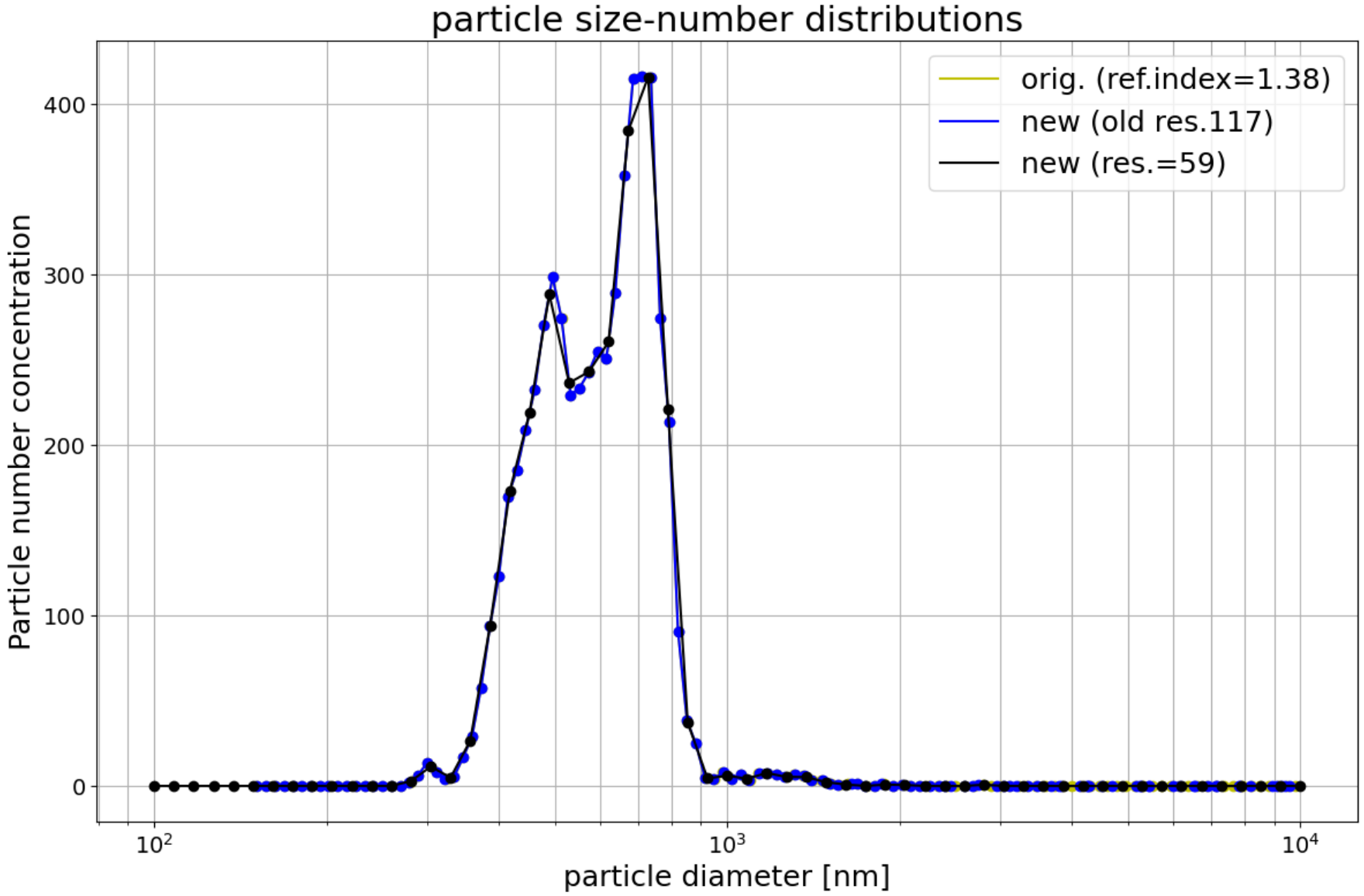
File: New_n1.54_117bins_20220913_1459_60_BAI_NaCl400nm_30_min_wb-dry_mS15cm_a100s_n154_64bins



- Original data (yellow) and recalculated data (blue) completely overlap
- Same resolution and refractive index are used

To show this isn´t a fluke:

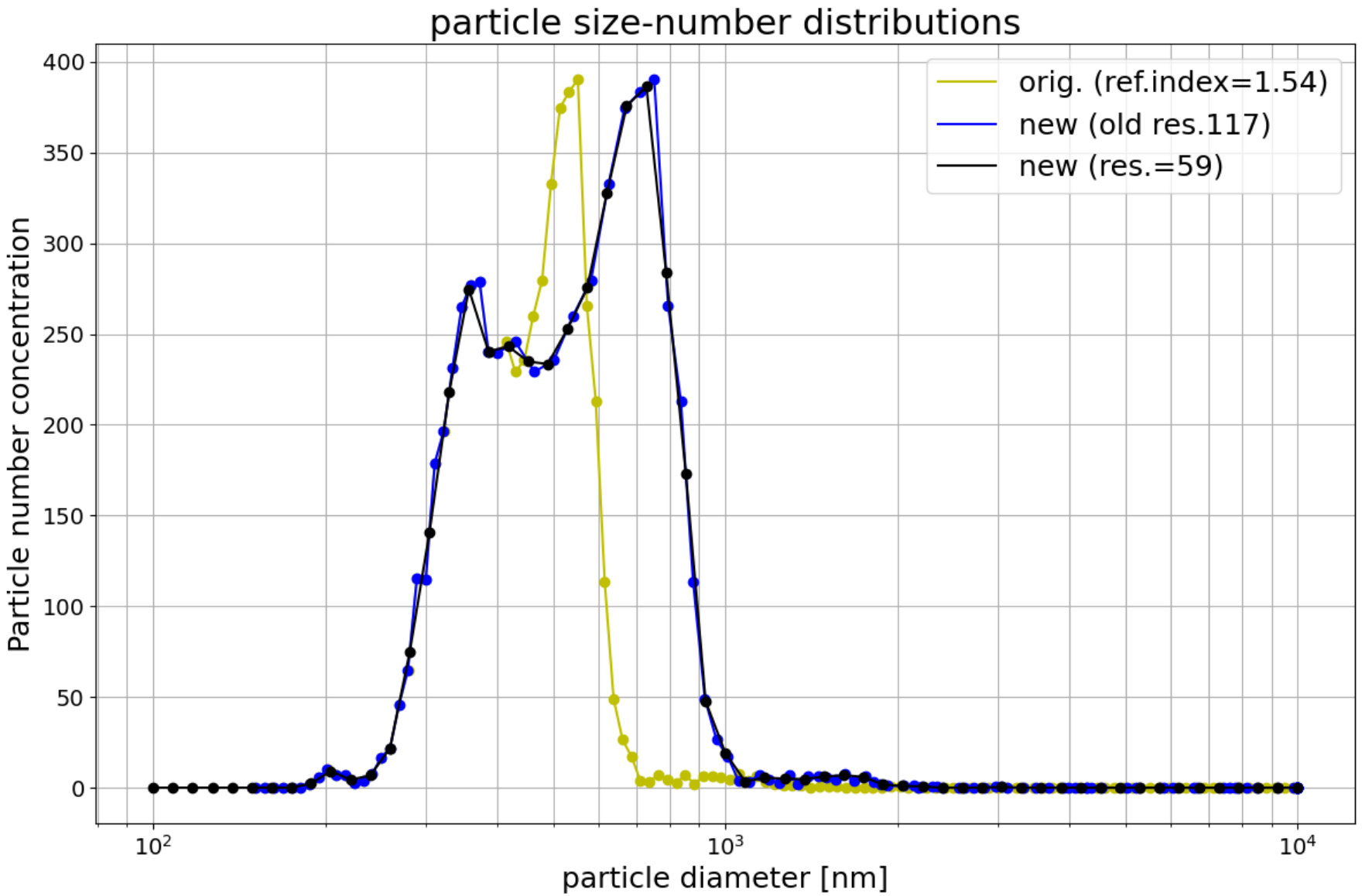
File: New_n1.54_117bins_20220913_1459_60_BAI_NaCl400nm_30_min_wb-dry_mS15cm_a100s_n138_64bins



- Original data (yellow) and recalculated data (blue) completely overlap
- Same resolution and refractive index are used

Now for new dynamically changing refractive index:

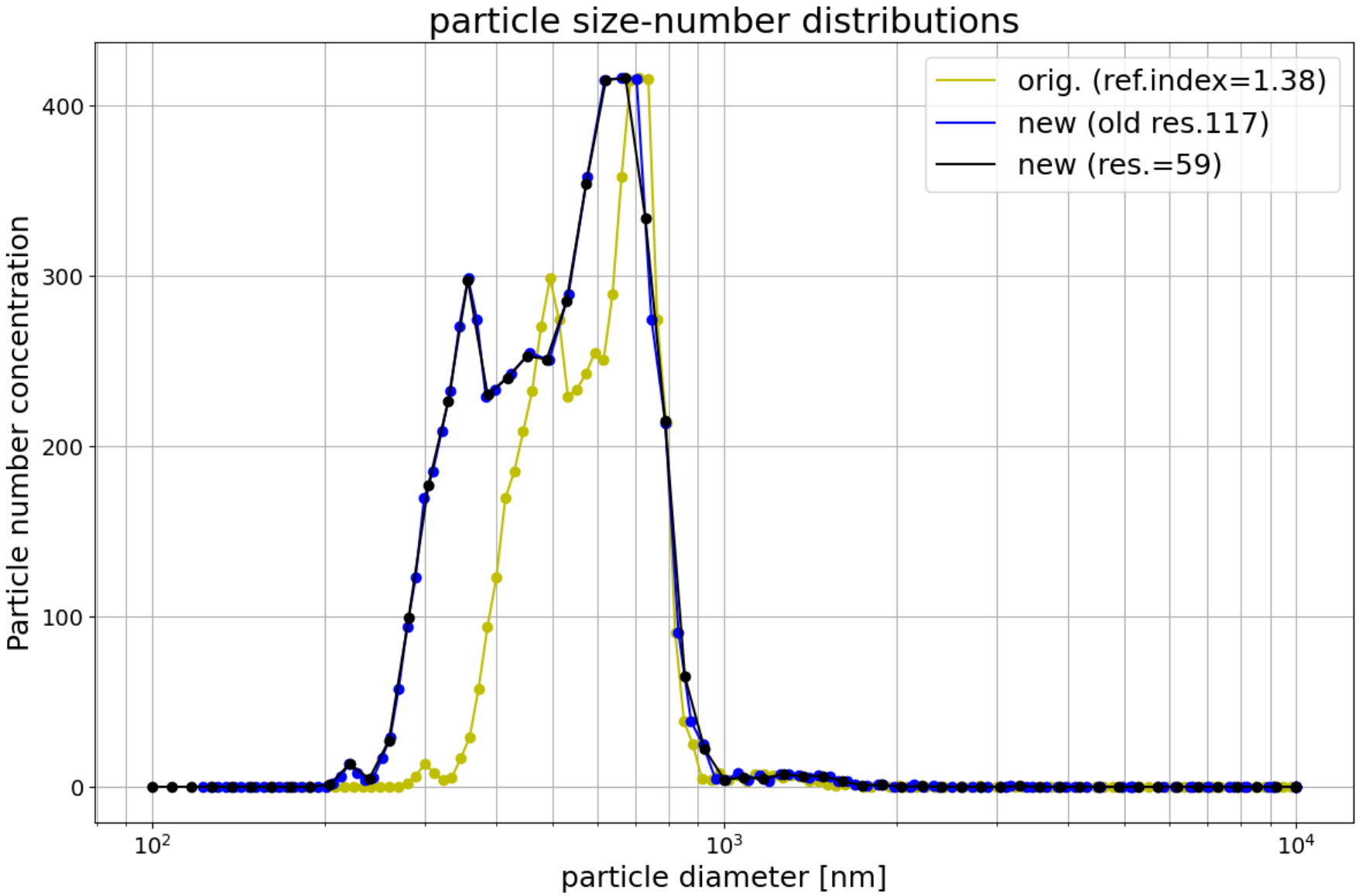
File: New_custom_ref_index_117bins_20220913_1459_60_BAI_NaCl400nm_30_min_wb-dry_mS15cm_a100s_n154_64bins



- Original data (yellow) and recalculated data (blue) completely overlap, in the beginning, as both use 1.54 as refractive index.
- They later diverge as the refractive index of the recalculated data shifts to 1.33
- Advantage: peaks are more distinct

To show this isn´t a fluke:

File: New_custom_ref_index_117bins_20220913_1459_60_BAI_NaCl400nm_30_min_wb-dry_mS15cm_a100s_n138_64bins



- Original data (yellow) and recalculated data (blue) diverge as the refractive index of the recalculated data is 1.54
- They later mostly overlap as the refractive index of the recalculated data shifts to 1.33, old data at 1.38
- Advantage: peaks are more distinct