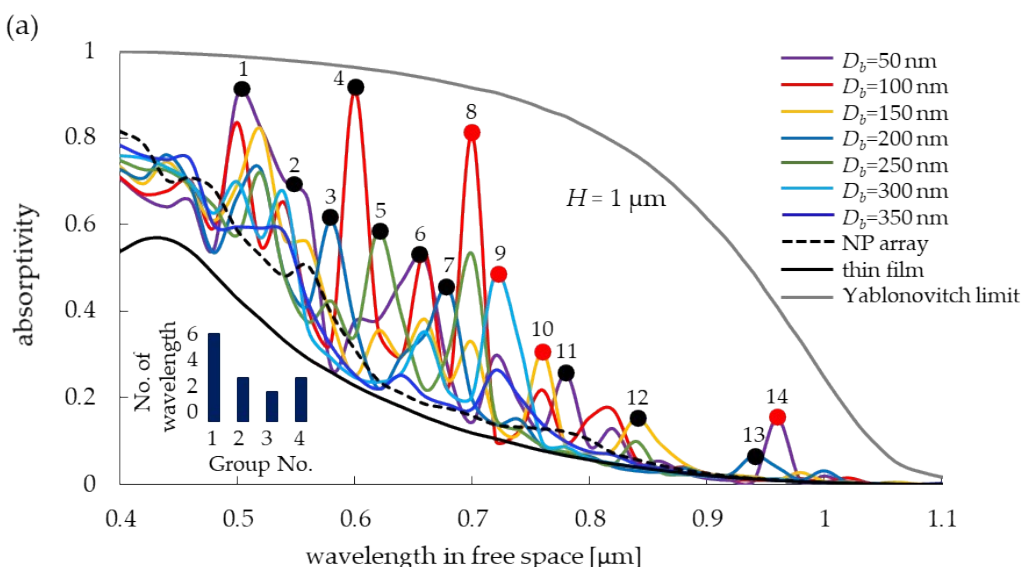


Approaching the Yablonovitch limit with free-floating arrays of subwavelength trumpet non-imaging light concentrators driven by extraordinary low transmission

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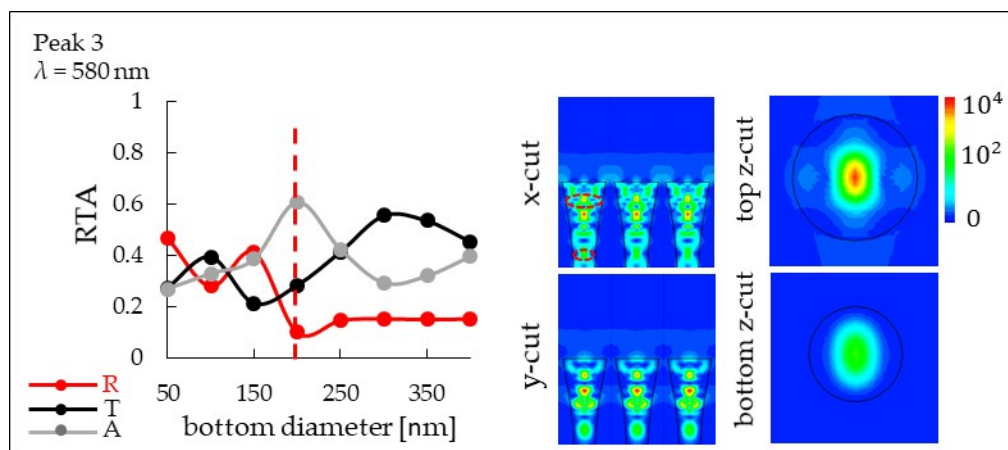
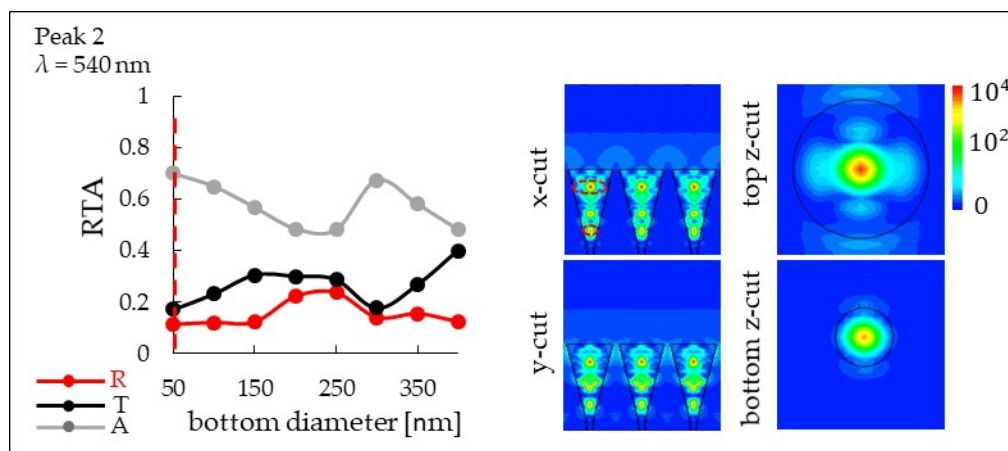
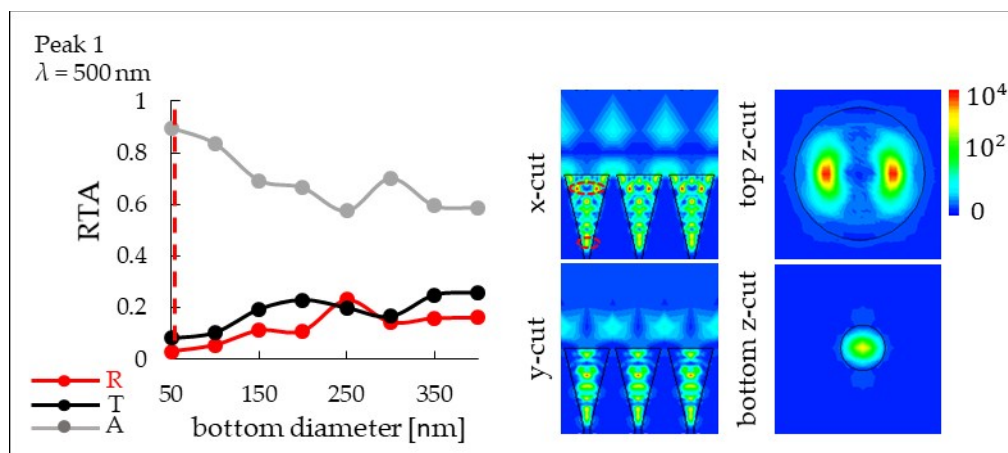
Supporting Information

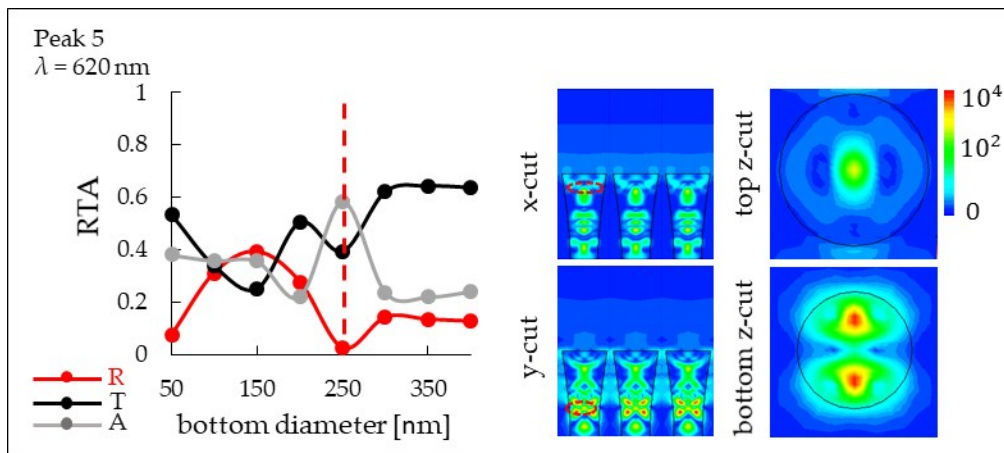
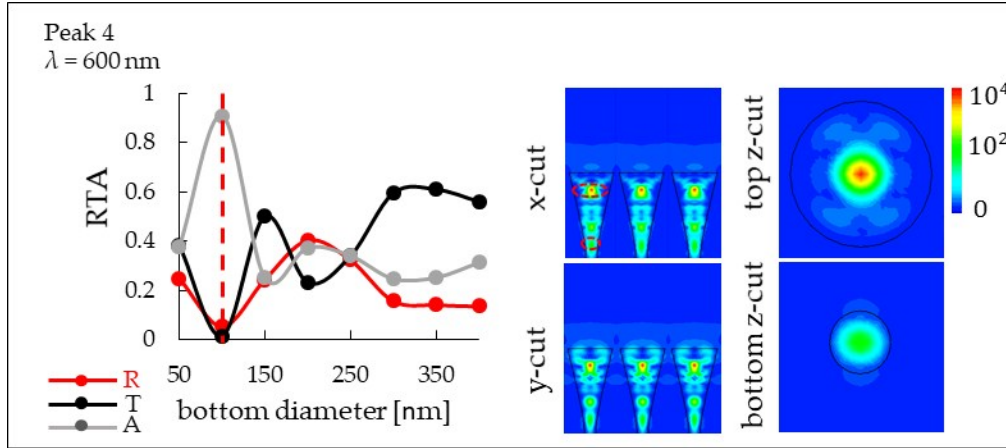
In the below we present the additional 10 absorption peaks classified into the four groups.



Group 1: low transmission (bottom excitation) and low reflection (top excitation)

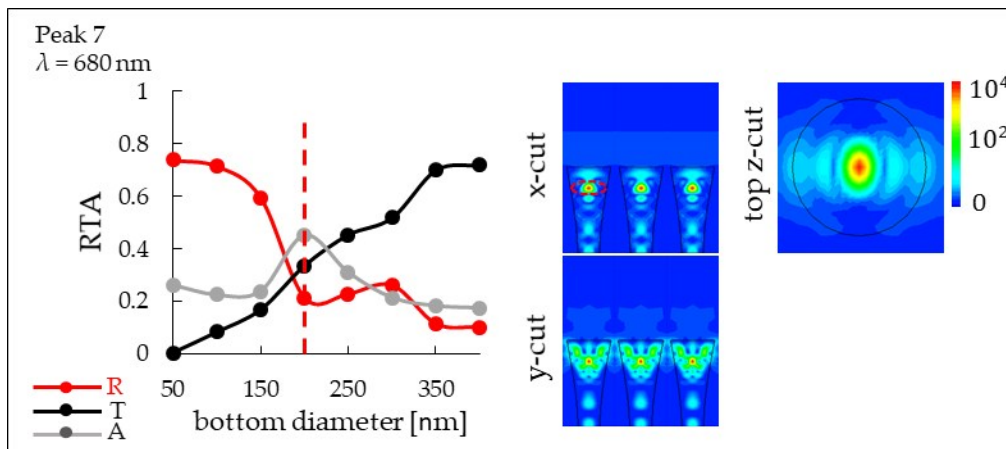
Peak 1,2,3,4: The far-field absorptivity is driven by both low reflectivity and low transmissivity. The PFD x-sections present the respective top and bottom excitations. Note that for peak 5 the transmissivity is higher but still considerably lower than the transmissivity of NP array ($D_b=400$ nm).

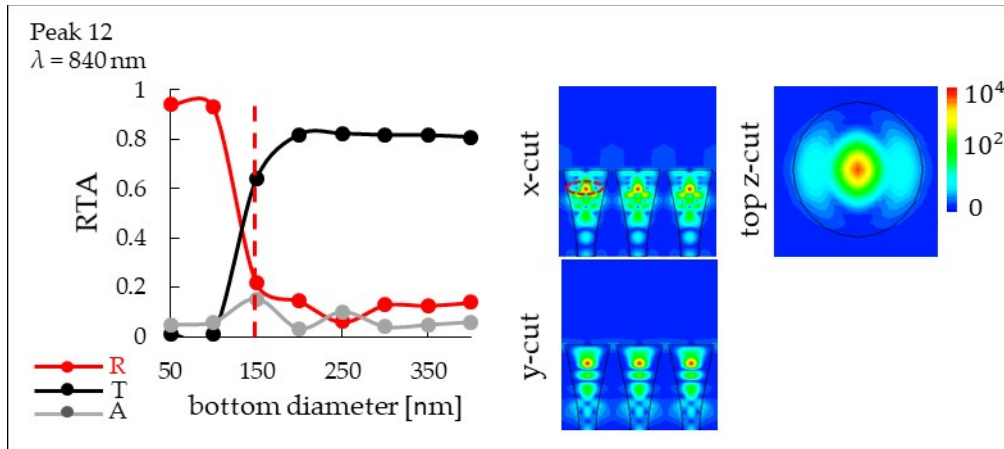




Group 2: low reflection (top excitation)

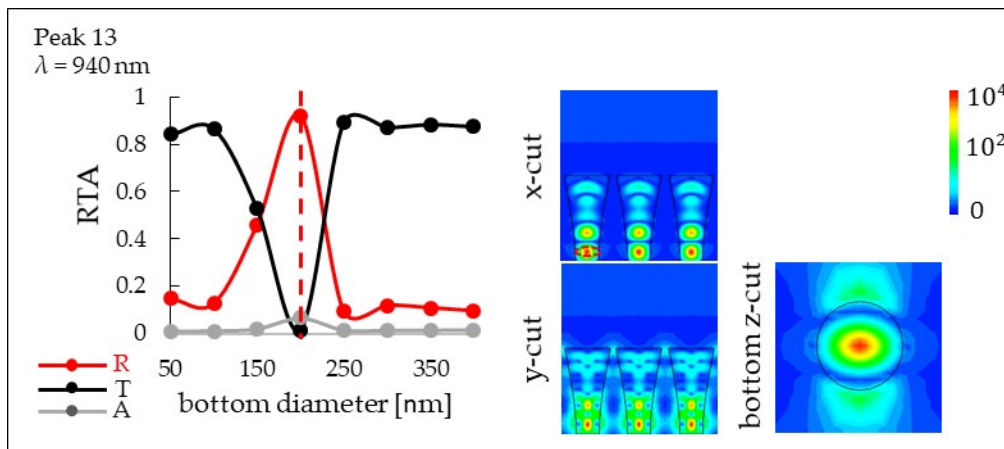
Peaks 7,12: The far-field absorptivity is driven by low reflectivity. Note that for both peak 7 and 12 strong excitations at the top of the trumpets are evident which correlate with the low reflectivity. The transmissivity is still lower than the transmissivity of NP array ($D_b=400 \text{ nm}$) as some weaker excitations at the trumpets' bottoms are evident.





Group 3: low transmission (bottom excitation)

Peak 13: The far-field absorptivity is driven by low transmissivity and bottom excitation.

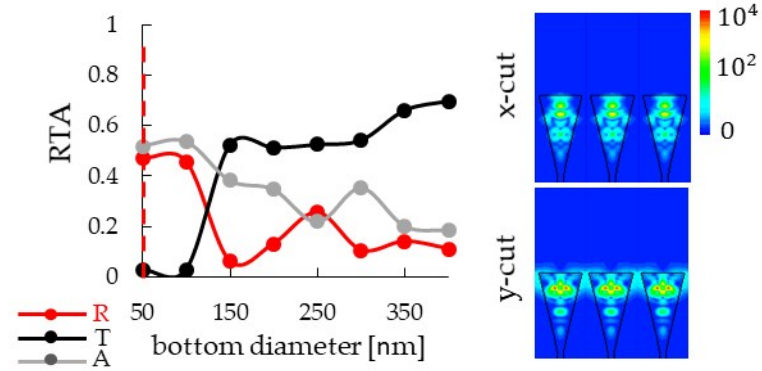


Group 4: low transmission (no 'funneling' of photons)

Peaks 6,11: The far-field absorptivity is driven by low transmissivity. Unlike Group 3 the low transmissivity is not due to bottom excitation, but rather the small bottom diameter provides only very few states for the corresponding wavelengths and hence very little occupation is possible at the bottom. In this case, more photon will be reflected albeit the strong top excitations.

Peak 6

$\lambda = 660 \text{ nm}$



Peak 11

$\lambda = 780 \text{ nm}$

