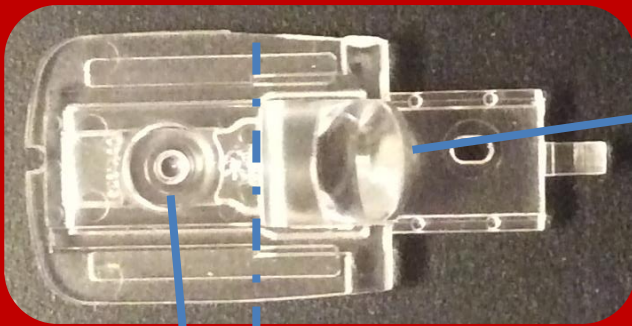


# Happy new year from « Physique sans Frontières » Commission of the French Physical Society « Smartphone + optical mouse = microscope »

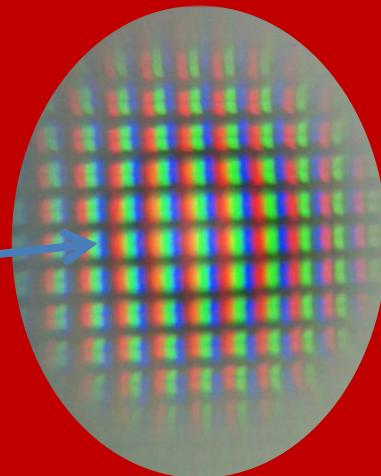
I-Dismantle an optical mouse and select the transparent plastic component, cut it between the two lenses at the level of the dotted line



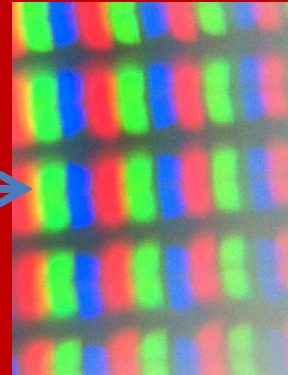
II-Install the lens on your favorite smartphone camera



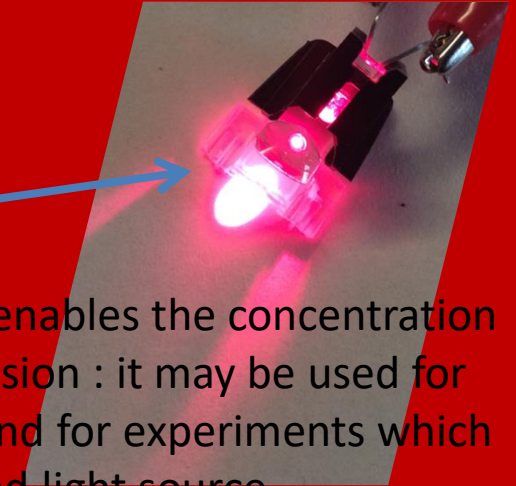
III-Picture obtained by putting the smartphone on a tablet screen



IV-Using the numerical zoom



The other lens enables the concentration of the LED emission : it may be used for retro lighting and for experiments which needs uniformed light source.



**Limitations:** poor field of view due to the use of a spherical lens, need of retro illumination for opaque samples