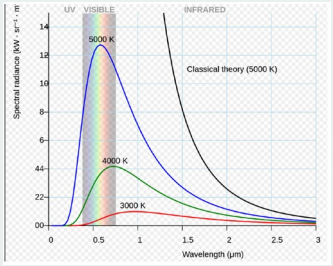
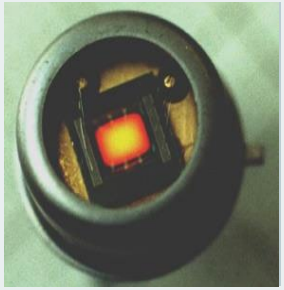


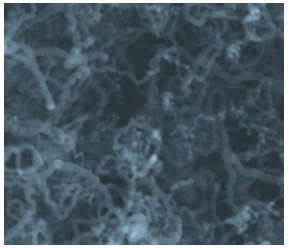
Purpose and aim

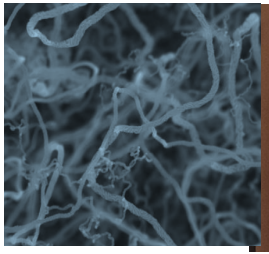
Interconnected crosslinked carbon nanotubes (iCL-CNT) films can be used as blackbody emissive and transmissive films, as they potentially have low reflectance and high transmission in both visible and near infrared spectrum. The iCL-CNT films are to be deposited As blackbody emissive films they shall be the heated resistor on a silicon micromachined diaphragm or beam with low thermal mass and high thermal conduction to be used as a high speed infrared emitter to be used in different applications like non-dispersive gas sensors for detecting gases like carbon dioxide and methane.

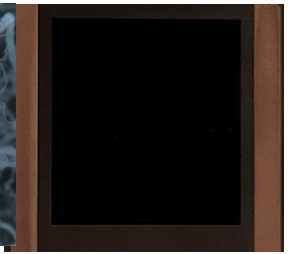


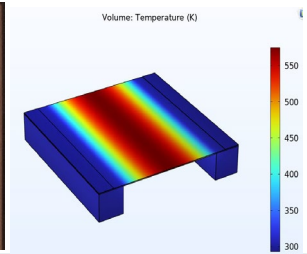
Schematic cross-section view

Results Comsol simulations provides insights into temperature destribution within the emitter. As the electric current passes Joul heating occrrs in the iCL-CNTs layer. Microfabricated sbstrate and depsition of iCL-CNTs films i

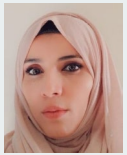








Interconnected Crosslinked carbon nanotubes as black body emissive and transmissive films



Bothayna AhmadAlsaleh
253079@usn.no
Master of sience micro nano systems

supervisors: M. Nadeem Akram
Muhammad.N.Akram@usn.no
with pai lu as co-supervisor Pai.Lu@usn.no

Universitetet i Sørøst-Norge