

## **New findings in water purification treatment**

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The proposed poster describes some new findings on the water purification method based on the Exclusion Zone (EZ) phenomenon in the vicinity of hydrophilic surfaces that allows a spontaneous self-cleaning of water from solutes.

The patented filter shows huge promise for filtering harmful substances from water, both solids (larger than 1 $\mu$ m) and dissolved substances (ions and molecules). According to (Pollack) the separation is driven by incident light energy, which builds the EZ and thereby separates out the contaminants. Several prototypes have been designed and tested with the aim to increase the water filtration efficacy. Hence a large number of solutes and pollutants in aqueous solution have been treated by the here presented system in order to verify the effectiveness in water purification. The results have demonstrated the system ability to treat water at various level of contamination.

Even the water filtration based on the EZ phenomenon is still at its infant stage, we observed an encouraging progress in water purification performances that leads to a system scalability research process.