

## ***Interactive comment on “Surface Water Purification using cellulose Paper Impregnated with Silver Nanoparticles” by Shahad A. Raheem and Alaa H. Alfatlawi***

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C1

### **Surface Water Purification using cellulose Paper Impregnated with Silver Nanoparticles**

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**Abstract.** The objective of this study is to prepare a cellulose paper was impregnated with (AgNPs) for the purpose of water purification (Disinfection (removal of Escherichia C  
10 Aureus, Enterococcus Faecalis, Enterobacter Aerogenes, Klebsiella Pneumoniae, and Pr  
filtration). AgNPs papers were prepared by chemical reduction of silver nitrate (Ag  
concentrations (0.005 M, 0.015 M, 0.03 M, and 0.05 M) using sodium borohydride (Na  
agent. Two ratios of NaBH<sub>4</sub>/AgNO<sub>3</sub> of 2:1 and 10:1 were used to show the effect of reducti  
and removal efficiencies of AgNPs. AgNPs papers were characterized using Scanning E  
15 (SEM) and Transmission Electron Microscopy (TEM). An acid digestion using HCL acid fo  
the samples in Atomic Absorption Spectrometer (ASS) was conducted to measure the silv  
AgNPs papers. TEM images showed that the silver nanoparticles size in the papers varies fr  
Water samples, after filtration through AgNPs papers, were analyzed using (ASS) to  
concentration in the effluent water. AgNPs paper antibacterial efficiency ranged (99 %  
C2