

# USING MOBILE PHONE DIGITAL CAMERAS IN DIGITAL CLOSE RANGE PHOTOGRAMMETRY

Dr. Mostafa Abdel-Bary EBRAHIM  
Lecturer at Civil Engineering Dept., Faculty of Engineering  
Assiut University, Assiut, Egypt  
[Ebrahim@acc.aun.eun.eg](mailto:Ebrahim@acc.aun.eun.eg) & [Mostafa.Ebrahim@btinternet.com](mailto:Mostafa.Ebrahim@btinternet.com)

## **ABSTRACT**

*With the revolution of digital technology, digital cameras are nowadays being used as a new communication tool. This new tool is enhanced by the production of mobile phones with built-in digital cameras. This product gives us the opportunity to take photographs of any object we may face at anytime instantaneously. Just get your phone from your pocket and take the photos. This new facility in the mobile phone generation could enable us to use it in the digital photogrammetric field. To use this tool, first we must find out its accuracy.*

*This paper will evaluate the use and accuracy of these digital cameras in digital close range photogrammetric applications. The research work is divided into two stages. The first stage is to ascertain the accuracy of the mobile phone digital cameras in laboratory. Two mobile phone models with built-in digital cameras were used. The results were compared to more accurate measurements and to more accurate types of other digital cameras.*

*The second stage is making a practical application on a natural object (multi story building) using one of the mobile phones and comparing its results with the results of an Olympus digital camera that has a higher accuracy.*

*The results were promising to use the mobile phone digital cameras in digital close range photogrammetric applications to certain accuracy. The results show that the relative accuracy for the used mobile phone digital cameras is 1/400, which is fair enough for some of the close range digital photogrammetric applications. A better accuracy is expected with the release of the next mobile phones generation with higher images' resolution. All the results and analysis of this research work will be presented in this paper.*