

## DEMONSTRATION OF SUPERCOOLING AND MODELING THE FREEZING TIME OF FOOD PRODUCTS BY THERMOFRIDGE PUMP

*G. Bop D. Sow*

*Research Scholar, Department of Chemical Engineering and Applied Biology, Ecole Polytechnique,  
Dakar-Fann, Senegal, West Africa*

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**Received: 23 Aug 2018**

**Accepted: 31 Aug 2018**

**Published: 30 Sep 2018**

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### **ABSTRACT**

*In this article we were able to highlight the super cooling during the freezing of water and model the duration of freezing of different food products from their temperature of entry to their temperature of end of freezing. The numerical model thus obtained makes it possible, knowing the mass and the water content of the product to be frozen, to predict the time necessary for the total and thorough freezing of the product. The results obtained by the numerical model thus presented corroborate well with those obtained experimentally, which comforts us in our numerical approach with regard to cold rooms of small dimensions.*

**KEYWORDS:** *Thermofridge Pump, Freezing, Water Content, Modeling*