

## Determination of concentration factors for several trace metals by *Nannochloropsis sp.* incubated in several culture solutions by PIXE

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### Abstract

Concentration factors for trace metals in the marine micro organisms are very interesting because they have played the large role in the mass transfer in the ocean. By this research, it has checked that continuous cultivation of marine micro algae (*Nannochloropsis sp.*) by the culture solution based on the artificial seawater purified ion exchange resin was possible like the conventional culture solution based on the filtration seawater. A 2.9MeV proton beam from a NMCC cyclotron bombarded the target for PIXE analysis of marine micro algae. The simultaneous determination of the main and trace elements in the algae sample was carried out by PIXE analysis. The temporary value of the concentration factors for concentration factors for  $Mn^{2+}$ ,  $Fe^{3+}$  and  $Zn^{2+}$  were obtained. Measurements were smaller than in the case of sea water (1/50 -1/300).