Proposal Acronym	DEVNESCO
Proposal Title:	Development of neutron based method for monitoring of salt in crude oil
Surname:	Meric
First name(s):	Ilker
Research area:	Physics PHY
Sub-discipline of research area:	Nuclear physics Metrology and measurements Nuclear chemistry
Category of research:	applied
Keywords:	Salt-in-crude-oil, neutron radiation, monte carlo simulation, prompt gamma-ray neutron activation analysis, petroleum
Abstract:	It is a well-known fact that almost all crude oils will contain varying amounts of salts depending on geological conditions of the hydrocarbon producing field or even among different wells within the same field. The salt minerals present in the crude oil will lead to serious problems such as corrosion and clogging of pipelines as well as fouling. Therefore, most refineries include desalination units in order to remove the salt content in crude oils. Thus, there is a need to monitor the salt content in crude oil samples both upstream and downstream of the desalination units. In this project, it is proposed to use a neutron based method for monitoring of the overall salt content in crude oil samples as this will enable robust and non-intrusive measurements of the salt minerals. The overall objectives of the proposed work will be achieved through theoretical considerations based on simulations and laboratory experiments with focus on the development of a prototype instrument.
Does this proposal possess any of the sensitive ethical issues detailed in ethical issues table?:	No