

**Memorandum of Understanding**  
**between**  
**the Ministry of Science and Education of the Republic of Croatia**  
**and**  
**the Ministry of Science, Innovation and Universities of the Kingdom of Spain**  
**regarding fusion collaboration**

The Ministry of Science and Education of the Republic of Croatia and the Ministry of Science, Innovation and Universities of the Kingdom of Spain, hereinafter referred to as the “Signatories”;

RECOGNISING the scientific and technological developments achieved in fusion science, technology and related business sectors;

DESIRING to develop and promote stronger ties in the areas of fusion science, fusion technology and fusion applications;

INTENDING to undertake a sustained effort to promote, facilitate and support fusion science and technology within their own fusion communities (Research Centres and Companies) in their respective States;

RECOGNISING the opportunity to contribute to the accelerated development of fusion as an electricity producing source for the benefit of mankind;

HAVE REACHED the following understanding:

**1. Purpose and nature of this Memorandum of Understanding**

The purpose of this Memorandum of Understanding (hereinafter referred to as “MoU”) is to acknowledge the importance of a strategic collaboration between the Signatories in the area of fusion energy research and to establish the parameters of a working relationship that will form the basis of specific projects of mutual interest.



## **2. Areas of Collaboration**

2.1. The Signatories intend to foster collaboration in the following areas:

### **A) DONES project**

The Signatories are interested in the future and early development of the DONES project in Europe and are significantly involved in the EUROfusion Early Neutron Source project. The Signatories will make all their best efforts to assure that the facility is built in EU as soon as possible and a coordinated strategy to reach this objective will therefore be developed.

The Signatories are also strongly supporting a proposal to host the facility in a site located close to Granada (Spain) or, if not possible for technical reasons, in a site located close to Zagreb (Croatia). For this purpose, the Signatories will establish a Joint Team for the promotion of the project proposal which should be strongly coordinated with the activities which are currently being carried out at the EU level. The Joint Team will also promote the participation of the Croatian and Spanish industry in the project developing specific actions with this purpose.

### **B) R&D on fusion material studies with accelerator based radiation sources**

The Signatories are developing significant programs on fusion materials research with special emphasis in ion-irradiation effects in materials and including the construction and exploitation of specific ion sources which are especially relevant in the EU Fusion Program.

The Signatories are interested to jointly use these capabilities to study and test new technologies and procedures concerning material studies related to fusion machines and will, therefore, identify and assess appropriate internal and third party funding programs to support the aforesaid programs including the construction of infrastructure and experimental facilities to carry out this type of studies.

### **C) R&D on plasma physics and other fusion related topics**

Spain has developed a significant program on plasma physics including the construction and exploitation of the TJ-II plasma device. In the framework of this Memorandum of Understanding, this facility will be made available for Croatian researchers and students. Spain and Croatia are interested to jointly use these capabilities to carry out projects in the area of plasma physics and related technologies, both from the experimental and modeling point of view. Both Parties will identify and assess appropriate internal and third party funding programs to support these programs.



2.2. Other areas of mutual interest may be included by mutual consent.

### **3. Collaboration activities**

The signatories intend to mutually collaborate in the:

- a) General exchange of research scientists and students;
- b) Promotion of the industrial involvement in big-science facilities;
- c) Collaboration on development of research facilities;
- d) Use of such facilities operated by the Parties; and
- e) Promotion of mutual participation in international projects as shall be mutually agreed by the Parties in the area of fusion energy research and with special emphasis in the IFMIF-DONES project.

Other forms of collaboration may be included by mutual consent.

### **4. Designated Authority**

The organizations responsible for the execution of this Memorandum of Understanding are the Ministry of Science and Education of the Republic of Croatia and the Ministry of Science, Innovation and Universities of the Kingdom of Spain.

### **5. Coordination Committee**

A Coordination Committee will be established by the Signatories which shall be formed by two representatives of each Signatory.

The Coordination Committee will be entrusted with the implementation of this MoU, with following up its results and with further developing a detailed planning.

The Coordination Committee will meet at least once a year.

### **6. Financing**

The financial arrangements to cover expenses for the cooperation activities undertaken within the framework of this Memorandum of Understanding will be mutually decided upon by the Signatories on a case-by-case basis subject to the availability of funds and resources and to the laws applicable to the Signatories.





## 7. Coming into effect and Duration

This MoU will come into effect between the Signatories as of the day on which the signature and shall remain in effect for a period of 5 (five) years.

This MoU will cease to produce its effects on the date on which either Signatory gives written notice of its intention to terminate it at least six (6) months prior to its expiry date.

The cessation of effects of this MoU will not affect the on-going collaboration activities under this MoU, unless the Signatories decide otherwise.

## 8. Effects of this Memorandum of Understanding

This Memorandum of Understanding serves only as a record of the Signatories' intentions and does not constitute or create, obligations under domestic or international law and will not give rise to any legal process and will not be deemed to constitute or create any legally binding or enforceable obligations, express or implied.



## 9. Modification

Any modification of the MoU requires the written agreement signed by the Signatories hereto.

## 10. Resolution of disputes

Any difference or dispute between the Signatories concerning the interpretation and/or implementation and/or application of any of the provisions of this Memorandum of Understanding shall be settled amicably through mutual consultation and/or negotiations between the Signatories through diplomatic channels.

Signed in 20<sup>th</sup> juin 2018, in two originals in the English language.

<p><b>For the Ministry of Science and Education of the Republic of Croatia</b></p>  <p><b>Blaženka Divjak</b></p>		<p><b>For the Ministry of Science, Innovation and Universities of the Kingdom of Spain</b></p>  <p><b>Pedro Duque</b></p>
--	--	---