

# **Emergency Oxygen Provision as a Mechanism of the Motion of an Aircraft Through MIRCE Functionability Field**

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*MIRCE Mechanics is the discipline of MIRCE Science that focuses on the scientific understanding and description of the functionability actions that govern the motion of functionable system types through the MIRCE Functionability Field (MFF) [1]. A full understanding of the mechanisms of these actions is essential for the accurate predictions of the functionability performance of functionable system types using MIRCE Functionability Equation. Thus, the main objective of this paper is to address a provisioning of emergency oxygen as a mechanism of a motion of an aircraft through MFF generated by the observed physical phenomena or human activities. Some of them are briefly described and analysed in the paper. Based on the evidence available recommendations for the reduction of the probability of occurrence of negative functionability events of the emergency oxygen provision are presented.*

## **1. Introduction**

## **2. MIRCE Science Fundamentals**

## **3. Aircraft Emergency Oxygen System**

### **3.1 Regulations**

### **3.2 Equipment**

#### **3.2.1 Flight Deck**

#### **3.2.2 Passenger Compartment**

### **3.3 Oxygen Mask**

#### **3.3.1 Flight Deck**

#### **3.3.2. Passenger Compartment**

### **3.4 Oxygen Generating Mechanisms**

## **4. Emergency Oxygen Provisioning Related Negative Functionability Actions**

**Case 1:**

**Case 2:**

**Case 3:**

**Case 4:**

**Case 5:**

**Case 6:**

**Case 7:**

## **5. Oxygen Masks Related Negative Functionability Actions**

## **6. Functionability Improving Actions for Emergency Oxygen Provisioning**

## 7. Conclusions

## 8. References

[1] Knezevic, J., The Origin of MIRCE science, pp 232, MIRCE Science, Exeter, UK

[2] Veillette, P.R., A n Emergency Is Not When To Discover Your Oxygen Masks Don't Work, *Business & Commercial Aviation*, 28 January 2019

<http://aviationweek.com/business-aviation/emergency-not-when-discover-your-oxygen-masks-don-t-work> (accessed 28.01.2019)

[3] “Oxygen Mask Failures” feature in the February 2019 issue of *Business & Commercial Aviation*. The original title is “Weak Points That Are Failing.”

<http://aviationweek.com/business-aviation/weak-points-oxygen-masks-are-failing> (accessed 12.02.2019)

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