**IceCube Institutional Memorandum Of Understanding (MOU)**

**Scope Of Work**

**Universität Dortmund**

**Wolfgang Rhode**

**Ph.D Scientists** (Faculty Scientist/Post Doc Grads): **2** (1 1 3)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Labor Cat.** | **Names** | **WBS L3** | **Tasks** | **WBS 2.1** | **WBS 2.2** | **WBS 2.3** | **WBS 2.4** | **WBS 2.5** | **Grand Total** |
| Program Management | Detector Maintenance & Operations | Computing & Data Management | Triggering & Filtering | Data Quality, Reconstruction & Simulation Tools |
| SC | RUHE, TIM | Physics Filters | Physics filters |   |   |  |  0.20 |   | 0.20 |
|   | **RUHE, TIM Total** |  |  |  |  | **0.20** |  | **0.20** |
| SC | PIELOTH, DAMIAN | Computing Resources | Coordinate GRID computing in Germany |   |   | 0.25 |   |   | 0.25 |
|   | **PIELOTH, DAMIAN Total** |  |  |  | **0.25** |  |  | **0.25** |
| GR | DTMD GR | Detector Monitoring | Detector Monitoring |   | 0.03 |   |   |   | 0.03 |
|   | BÖRNER, MATHIS | Simulation Production | Simulation production site manager at Dortmund |   |   | 0.30 |   |   | 0.30 |
|   | MENNE, THORBEN | Physics Filters | Physics filters |   |   |  |  0.20 |   | 0.20 |
|   | FUCHS, TOMASZ | Simulation Programs | PROPOSAL-IceProd integration and maintenance/support |   |   |   |   | 0.50 | 0.50 |
|   | **Ph.D. Students Total** |  |  | **0.03** | **0.30** | **0.20** | **0.50** | **1.03** |
| **DTMND Total** |  |  |  | **0.03** | **0.55** | **0.40** | **0.50** | **1.48** |

**Faculty:**

Wolfgang Rhode

**Scientists and Postdocs:**

Tim Ruhe 🡪 Filtering WBS 2.4 with 0.2 FTE

Analysis topics: Machine learning and two dimensional unfolding of various signals

**PhD Students (100% IceCube):**

Thorben Menne 🡪 Filtering WBS 2.4 with 0.2 FTE

 Thesis/Analysis topics: Spectral unfolding of the signal from stacked source positions

Mathis Börner 🡪 Local MC Production WBS 2.3 with 0.3 FTE

Thesis/Analysis topics: Machine learning for filtering and high quality sample definition and spectral unfolding of the signal from atmospheric muon neutrinos

Tomasz Fuchs 🡪 2.5 PROPOSAL integration with 0.5 FTE

Thesis/Analysis topics: Simulation and analysis of HE atm. muon interactions in PROPOSAL, investigation of the corresponding systematic uncertainties. Thesis ending in autumn.

**General:**

The Dortmund group uses local resources (LiDO, PhiDO, DGRZR) for IceCube Monte Carlo production.