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

**Scope of Work**

**Humboldt-Universität zu Berlin**

**Marek Kowalski, Hermann Kolanoski**

**Ph.D Scientists** (Faculty Scientist/Post Doc Grads): **1** (1 0 5)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 |
| KE | KOWALSKI, MAREK | Simulation Programs  | Simulation tools |   |   |   |  |  0.05 | 0.05 |
|   | **KOWALSKI, MAREK Total** |  |  |  |  |  | **0.05** | **0.05** |
| GR | VOGE, MARKUS | Physics Filters | Online L2 Filter, single event stream |   |  |  | 0.20  |  | 0.20 |
|   | **VOGE, MARKUS Total** |  |  |  |  | **0.20** |  | **0.20** |
|  | HEBECKER, DUSTIN | Engineering and R&D Support | Optical detector calibration & R&D | 0.10 |  |  |  |  | 0.10 |
|   | **HEBECKER, DUSTIN Total** |  | **0.10** |  |  |  |  | **0.10** |
| **HU Total** |  |  | **0.10** |  |  | **0.20** | **0.05** | **0.35** |

**Faculty:**

Marek Kowalski – supervision of students and high energy cross-section calculation

 (counted under DESY Head Count)

 Hermann Kolanoski – supervision of students and IceTop data analyses

**Ph.D. Students:**

Markus Voge – Online L2 Filter

 Thesis/Analysis topics: optical follow-up

Andreas Homeier – Optimization and operation of optical follow-up

 Thesis/Analysis topics: X-ray follow-up

Lukas Schulte – PINGU neutrino mass hierarchy sensitivity

 Thesis/Analysis topics: PINGU sensitivity and prototype sensor

Meike de With - Previous reconstruction coordination

Thesis/Analysis topics: search for WIMPs from galaxy clusters

 Dustin Hebecker - Development of a wavelength shifting light sensor