



OBJET : <i>Subject :</i>	COMPEX – Progress meeting		
PRESENTS : <i>Attendants :</i>	Lund University: D. Rudolph A. Roth, L. Sarmiento, P. Golubev, IKP Cologne: J. Eberth MIRION Lingolsheim : B. Pirard, P. Quirin, M. Ginsz	DATE : <i>Date :</i>	21/02/2017
DIFFUSION : <i>Distribution :</i>	To all participants	LIEU : <i>Place :</i>	Phone conference

	DATE / date :	NOM / Name :	VISA / Visa :
REDACTEUR : <i>Writer:</i>	24/02/2017	GINSZ, Michael	
ACCORD : <i>Approval:</i>		RUDOLPH, Dirk	

LIBELLE <i>Content</i>	RESPONSABLE <i>For Action</i>	DELAI <i>Time</i>
<p>1. Prototype single detector</p> <p>The first prototype is currently at Lund with limited performance at low and high energy. A second detector is ready at Lingo with improved performances. An exchange will be done as soon as possible. The Lund team will study the second prototype and MIRION will work on the first one in order to get the best tradeoff between hole length and resolution. The smaller the hole, the best low-energy resolution (minimization of N+ contact capacitance), the drawback being a worsening of high-energy resolution due to a longer drift distance in the front of the detector (trapping effect).</p> <p>2. HPGe capsule design</p> <p>Three designs were proposed during the last meeting at Lingolsheim (13/12/2016)</p> <ol style="list-style-type: none">1. Common capsule for 4 crystals (initial design)2. Single capsules3. Common capsule with new sealing technology <p>Based on Lund simulations (L. Sarmiento), there is no significant efficiency difference between design #1 and #2 for the four side detectors. As design #2 presents less technical risks than design #1, the Lund Team and MIRION agreed to proceed with design #2 for the 4 non-segmented COMPEX modules.</p> <p>This design implies some modifications with respect to the initial contractual specifications. MIRION will provide an updated drawing for customer approval of the detection head.</p> <p>The design for the segmented version (5th module) is still open and will be reviewed later in 2017.</p>	MIRION	1 April 2017

**3. HPGe crystal shaping**

As the detection head design is now decided for the 4 un-segmented detectors, the crystal external design can be updated. The 50x50x50 global geometry is set. If the design requires/allows for modification in the external bevels of the corners, **MIRION will provide a drawing for customer approval of the external crystal dimensions.** The hole length is still to be decided, based on ongoing performance assessments at Lund and MIRION Lingolsheim.

**MIRION /
LUND****30 April
2017****4. Cryostat Design**

For the final application, the cryostat is mounted directly on a vacuum chamber. This implies to use a vacuum-tight flange, which diameter is larger from the detection head diagonal. **MIRION will provide a CAD drawing considering a straight cold-finger and flange.** This is the safest way to make the "CLOVER Box", but this does not allow for a compact "CLOVER Wall" as initially requested.

MIRION**15 April
2017**

D. Rudolph reminds that some space (50-60mm) is needed at the rear of the detection head, in order to place Anti-Compton Backplug scintillators.

5. Delivery of the first detector

MIRION foresees the delivery of the first COMPEX detector in September 2017, on a best effort basis and provided that the remaining critical parameters (crystal hole dimension and overall cryostat design) are approved in time.