

INDIANA COOLER (1981 – 2002) – ARCHIVE

The 'Indiana Cooler' was a storage ring for light ions consisting of a circular magnet lattice of about 100 m in circumference. It was part of the Indiana University Cyclotron Facility (IUCF). Initially, the IU Cyclotron delivered the ion beam for the ring; eventually a dedicated Injector Cyclotron was added. The Cooler ring was built specifically for the purpose of exploiting the novel technology of electron cooling which made the use of an internal target possible. For more, see: H.O. Meyer, *The Indiana Cooler: a Retrospective*, Annu. Rev. Nucl. Part. Sci. 2007. 57:1-31

During my involvement with the Cooler, many documents concerning the construction and commissioning of the machine and covering much of the conducted research have accumulated in my files. After some culling and ordering, I have submitted these documents to the **Indiana University Archives**. The material is contained in five boxes. Each box comes with a detailed table of content.
Hans-Otto Meyer, April 2018

Box 5: Log Books 1994 - 2002

Log books are generated by the scientists at the time of the actual experiment. They are the most immediate record of the research effort.

- 1 CE35: pp elastic scattering spin correlation parameters (Ross, U of Wisconsin)
 - 1.1 11/20/1993 - 2/12/1994 (U of Wisc. No. 1879)
 - 1.2 2/12/1994 - 4/ 2/1994 (U of Wisc. No. 1885)
 - 1.3 missing
 - 1.4 7/17/1994 - 10/15/1994
 - 1.5 10/15/1994 - 10/22/1994
- 2 CE44: pp→ppπ⁰ with Polarized Beam and Polarized Target (Meyer, IUCF)
 - 2.1 11/ 5/1996 - 6/19/1997
 - 2.2 6/19/1997 - 7/ 2/1997
 - 2.3 7/ 2/1997 - 10/18/1997
 - 2.4 10/18/1997 - 4/24/1998
 - 2.5 4/24/1998 - 5/ 2/1998
 - 2.6 5/ 2/1998 - 10/13/1998
 - 2.7 10/13/1998 - 10/20/1998
- 3 CE45: Measurement of the Spin Correlation Coefficient A_{zz} with the Indiana Cooler (Meyer, IUCF)
 - 3.1 6/13/1996 - 6/27/1996
 - 3.2 7/ 2/1996 - 7/13/1996
- 4 CE64: Breakup in the p+d Reaction, Polarized Beam and Target (Meyer, IUCF)
 - 4.1 3/27/2000 - 2/21/2002
 - 4.2 2/21/2002 - 5/28/2002
- 5 CE55: Beam Depolarization with an Internal Target (Meyer, IUCF)
 - 5.1 7/7/1995 - 7/13/1996
- 6 CE61: Measurement of the Polarization Build-up of a Stored Cooled Proton Beam by

Interaction with Polarized Electrons (Rathmann, U of Wisconsin)

6.1	7/9/1996	-	7/15/1996
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7 CE70: The Nuclear Polarization of Molecular Hydrogen formed by Recombination of Polarized Atoms in a Storage Cell (Wise, U of Wisconsin)

7.1	2/ 8/1999	-	10/10/1999	(U of Wisc. No. 1942)
7.2	10/10/1999	-	10/17/1999	
7.3	10/15/1999	-	11/20/1999	
7.4	1/ 2/2000	-	1/12/2000	
7.5	1/12/2000	-	1/14/2000	

8 CE80: Spin dependence of the three-nucleon force, spin correlation coefficients in pd scattering (Przewoski, IUCF)

8.1		missing	
8.2		missing	
8.3		missing	
8.4	7/21/2000	-	10/15/2000
8.5	10/15/2000	-	10/24/2000
8.6	11/22/2000	-	12/ 6/2000