

**88-Inch Cyclotron**

The diagram illustrates the layout of the 88-Inch Cyclotron facility, showing the path of the ion beam through various caves and components. The beam path is color-coded: blue for the initial acceleration and extraction, green for the transport through the caves, and red for the final delivery to the target area.

**Key Components and Caves:**

- Cave 1 (BGS):** Contains the Beam Guide System (BGS) and the first set of beam transport elements.
- Cave 2:** Features the FIONA (Fast Ion Optics for Neutron Analysis) system and the second set of beam transport elements.
- Cave 3:** Contains the third set of beam transport elements and the third set of beam transport elements.
- Cave 4:** Divided into Cave 4A (Light Ion Facility) and Cave 4B (Heavy Ion Facility). Cave 4A includes the Ion Chamber and the fourth set of beam transport elements. Cave 4B includes the Scatter Chamber and the fifth set of beam transport elements.
- Cave 5:** Contains the fifth set of beam transport elements and the fifth set of beam transport elements.
- Vault:** The central area where the beam is delivered to the target area. It includes the Main Magnet Yoke, RF Tank, and various diagnostic and control systems.

**Beam Path and Components:**

- Beam Path:** The path of the ion beam, starting from the ion source, through the various caves, and finally to the target area.
- Components:** Various components are labeled along the beam path, including:
  - Beam Transport Elements:** V-4C-1, V-4C-2, V-4C-3, V-4C-4, V-4C-5, V-4B-1, V-4B-2, V-4B-3, V-4A-1, V-4A-2, V-4A-3, V-4A-4, V-4A-5, V-4A-6, V-4A-7, V-4A-8, V-4A-9, V-4A-10, V-4A-11, V-4A-12, V-4A-13, V-4A-14, V-4A-15, V-4A-16, V-4A-17, V-4A-18, V-4A-19, V-4A-20, V-4A-21, V-4A-22, V-4A-23, V-4A-24, V-4A-25, V-4A-26, V-4A-27, V-4A-28, V-4A-29, V-4A-30, V-4A-31, V-4A-32, V-4A-33, V-4A-34, V-4A-35, V-4A-36, V-4A-37, V-4A-38, V-4A-39, V-4A-40, V-4A-41, V-4A-42, V-4A-43, V-4A-44, V-4A-45, V-4A-46, V-4A-47, V-4A-48, V-4A-49, V-4A-50, V-4A-51, V-4A-52, V-4A-53, V-4A-54, V-4A-55, V-4A-56, V-4A-57, V-4A-58, V-4A-59, V-4A-60, V-4A-61, V-4A-62, V-4A-63, V-4A-64, V-4A-65, V-4A-66, V-4A-67, V-4A-68, V-4A-69, V-4A-70, V-4A-71, V-4A-72, V-4A-73, V-4A-74, V-4A-75, V-4A-76, V-4A-77, V-4A-78, V-4A-79, V-4A-80, V-4A-81, V-4A-82, V-4A-83, V-4A-84, V-4A-85, V-4A-86, V-4A-87, V-4A-88, V-4A-89, V-4A-90, V-4A-91, V-4A-92, V-4A-93, V-4A-94, V-4A-95, V-4A-96, V-4A-97, V-4A-98, V-4A-99, V-4A-100.
  - Diagnoses:** PH-4C-1, PH-4C-2, PH-4C-3, PH-4C-4, PH-4C-5, PH-4B-1, PH-4B-2, PH-4B-3, PH-4A-1, PH-4A-2, PH-4A-3, PH-4A-4, PH-4A-5, PH-4A-6, PH-4A-7, PH-4A-8, PH-4A-9, PH-4A-10, PH-4A-11, PH-4A-12, PH-4A-13, PH-4A-14, PH-4A-15, PH-4A-16, PH-4A-17, PH-4A-18, PH-4A-19, PH-4A-20, PH-4A-21, PH-4A-22, PH-4A-23, PH-4A-24, PH-4A-25, PH-4A-26, PH-4A-27, PH-4A-28, PH-4A-29, PH-4A-30, PH-4A-31, PH-4A-32, PH-4A-33, PH-4A-34, PH-4A-35, PH-4A-36, PH-4A-37, PH-4A-38, PH-4A-39, PH-4A-40, PH-4A-41, PH-4A-42, PH-4A-43, PH-4A-44, PH-4A-45, PH-4A-46, PH-4A-47, PH-4A-48, PH-4A-49, PH-4A-50, PH-4A-51, PH-4A-52, PH-4A-53, PH-4A-54, PH-4A-55, PH-4A-56, PH-4A-57, PH-4A-58, PH-4A-59, PH-4A-60, PH-4A-61, PH-4A-62, PH-4A-63, PH-4A-64, PH-4A-65, PH-4A-66, PH-4A-67, PH-4A-68, PH-4A-69, PH-4A-70, PH-4A-71, PH-4A-72, PH-4A-73, PH-4A-74, PH-4A-75, PH-4A-76, PH-4A-77, PH-4A-78, PH-4A-79, PH-4A-80, PH-4A-81, PH-4A-82, PH-4A-83, PH-4A-84, PH-4A-85, PH-4A-86, PH-4A-87, PH-4A-88, PH-4A-89, PH-4A-90, PH-4A-91, PH-4A-92, PH-4A-93, PH-4A-94, PH-4A-95, PH-4A-96, PH-4A-97, PH-4A-98, PH-4A-99, PH-4A-100.
  - Targets:** G-4C-1, G-4C-2, G-4C-3, G-4C-4, G-4C-5, G-4B-1, G-4B-2, G-4B-3, G-4A-1, G-4A-2, G-4A-3, G-4A-4, G-4A-5, G-4A-6, G-4A-7, G-4A-8, G-4A-9, G-4A-10, G-4A-11, G-4A-12, G-4A-13, G-4A-14, G-4A-15, G-4A-16, G-4A-17, G-4A-18, G-4A-19, G-4A-20, G-4A-21, G-4A-22, G-4A-23, G-4A-24, G-4A-25, G-4A-26, G-4A-27, G-4A-28, G-4A-29, G-4A-30, G-4A-31, G-4A-32, G-4A-33, G-4A-34, G-4A-35, G-4A-36, G-4A-37, G-4A-38, G-4A-39, G-4A-40, G-4A-41, G-4A-42, G-4A-43, G-4A-44, G-4A-45, G-4A-46, G-4A-47, G-4A-48, G-4A-49, G-4A-50, G-4A-51, G-4A-52, G-4A-53, G-4A-54, G-4A-55, G-4A-56, G-4A-57, G-4A-58, G-4A-59, G-4A-60, G-4A-61, G-4A-62, G-4A-63, G-4A-64, G-4A-65, G-4A-66, G-4A-67, G-4A-68, G-4A-69, G-4A-70, G-4A-71, G-4A-72, G-4A-73, G-4A-74, G-4A-75, G-4A-76, G-4A-77, G-4A-78, G-4A-79, G-4A-80, G-4A-81, G-4A-82, G-4A-83, G-4A-84, G-4A-85, G-4A-86, G-4A-87, G-4A-88, G-4A-89, G-4A-90, G-4A-91, G-4A-92, G-4A-93, G-4A-94, G-4A-95, G-4A-96, G-4A-97, G-4A-98, G-4A-99, G-4A-100.

**Berkeley  
Accelerator  
Space  
Effects  
(BASE)  
Facility**

## Heavy Ion Facility

 **Cave 4B**

## Cave 4A

## Light Ion Facility