

DBD Yoke and Coil section

Taken from SVN on 14 May 2012 at 11:45

```
\section{The ILD Yoke and Coil System}
```

```
\label{ild:sec:coil}
```

```
\writer{Francois Kircher, Uwe Schneekloth}
```

```
\subsection{ Physics Requirements}
```

```
\begin{itemize}
```

```
\item Magnetic Field
```

```
\item field in tracking volume, homogeneity
```

```
\item Muon Tracking
```

```
\item Backing Calorimeter (tail catcher)
```

```
\end{itemize}
```

```
\subsection{Magnet Design}
```

```
\subsubsection{Magnet components}
```

```
\begin{itemize}
```

```
\item Coil
```

```
\item Yoke
```

```
\item Anti DiD
```

```
\end{itemize}
```

```
\subsubsection{Magnet main parameters}
```

```
\begin{itemize}
```

```
\item Geometrical
```

```
\item Magnetic
```

```
\item Electrical
```

```
\end{itemize}
```

```
\subsubsection{Magnetic field map}
```

`\subsection{Coil Design}`

`\subsubsection{Coil main characteristics and parameters}`

```
\begin{itemize}
\item Geometrical
\item Magnetic
\item Electrical
\end{itemize}
```

`\subsubsection{Superconducting conductor}`

```
\begin{itemize}
\item Design
\item Reinforcement
\end{itemize}
```

`\subsubsection{Coil technical aspects}`

```
\begin{itemize}
\item Winding
\item Mechanical structure
\end{itemize}
```

`\subsubsection{Coil protection}`

`\subsubsection{Ancillaries}`

```
\begin{itemize}
\item Power circuit
\item Control and safety systems
\item Cryogenic plant
\end{itemize}
```

`\subsection{Iron Yoke Design}`

`\subsubsection{Design Considerations}`

```
\begin{itemize}
\item (modified) CMS style assembly
\item Segmentation
\item Forces
\item Stray field
\end{itemize}
```

`\subsubsection{Barrel Design}`

`\begin{itemize}`

`\item Design`

`\item Deformation and Stress`

`\item Support feet`

`\item Assembly`

`\end{itemize}`

`\subsubsection{Endcap Design}`

`\begin{itemize}`

`\item Design`

`\item Deformation and Stress`

`\item Assembly`

`\end{itemize}`

`\subsubsection{Support of Solenoid Cryostat}`