勢流科技 SIEMENS

Flotherm - 雙偵測點熱源(on/off)控制

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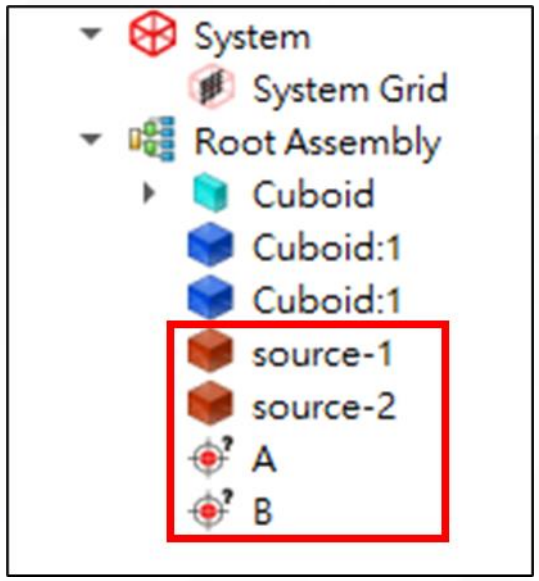
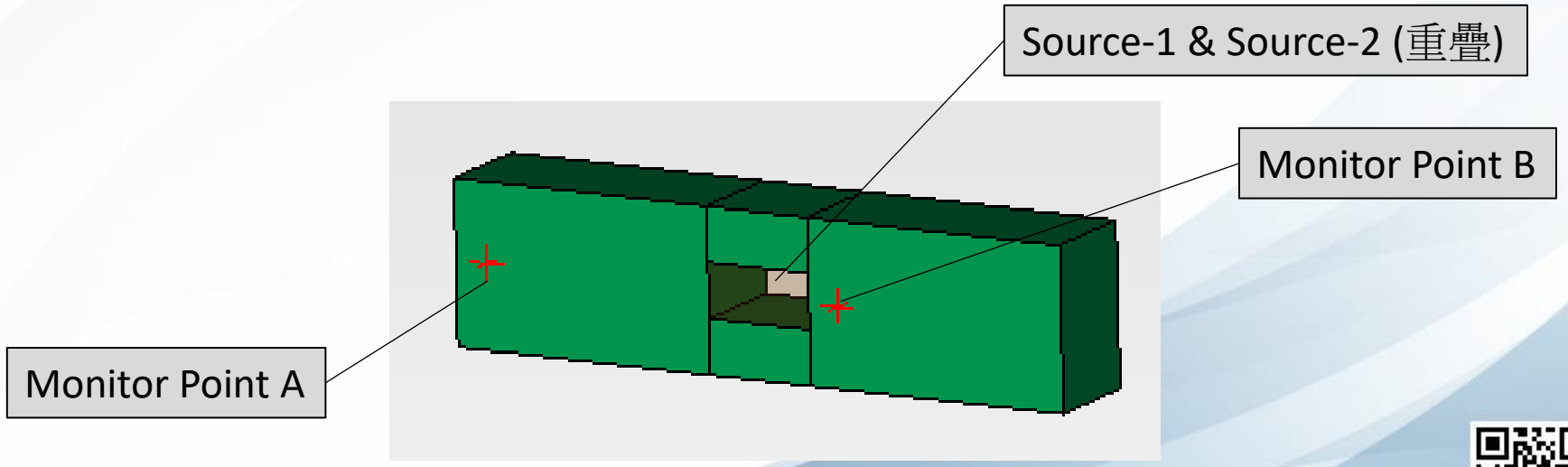
模擬目標

目標：模型中有兩個需要控制的溫度點(T_A,T_B)，目標為T_B<40 ℃、T_A>20 ℃

控制方法：當T_B>40 ℃ →power off；當 T_A<20 ℃ →power on

※模擬會使用到2個source重疊以及兩個Monitor Point 。



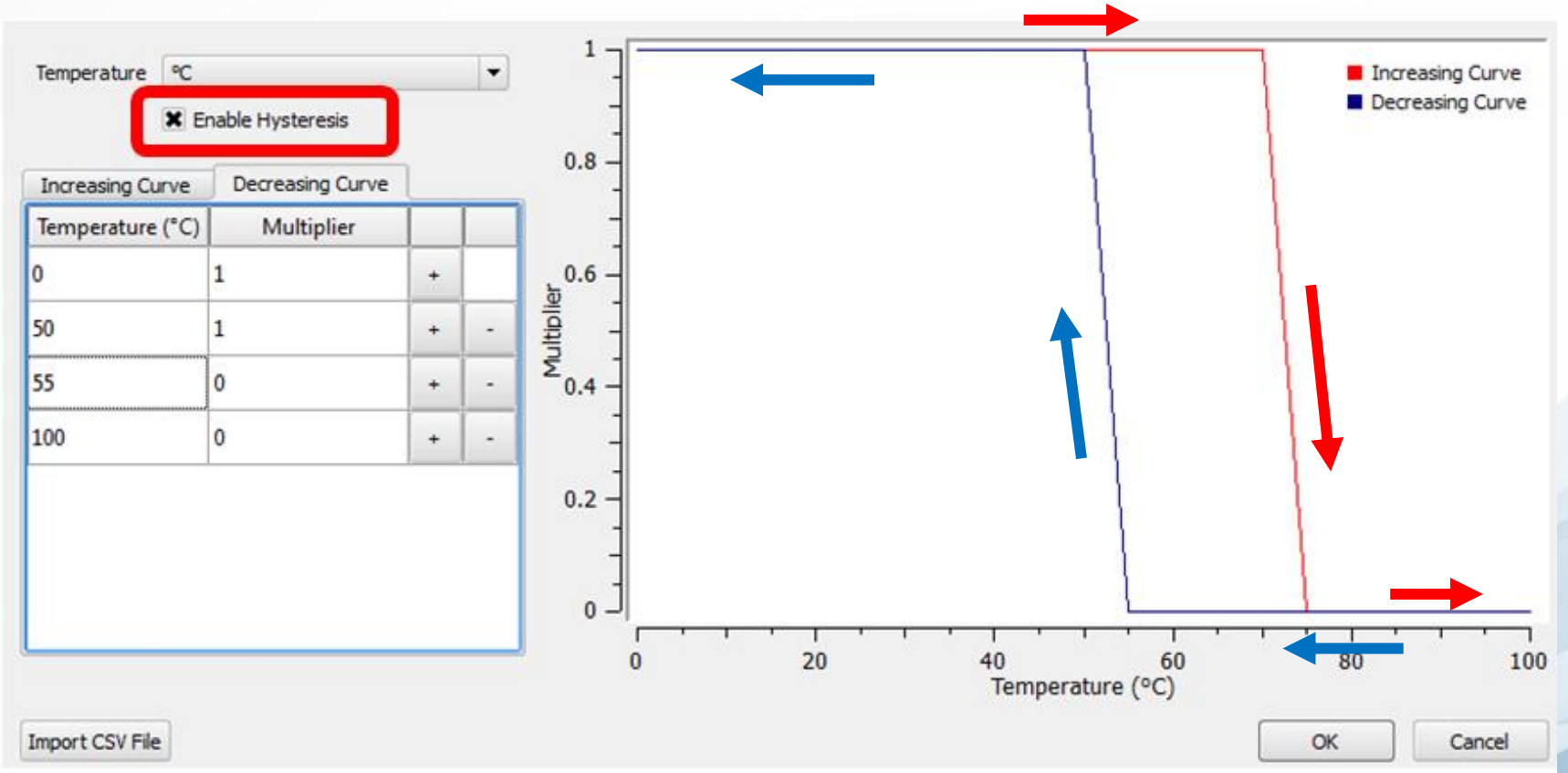


Increasing Curve & Decreasing Curve

Increasing Curve & Decreasing Curve分別代表升溫時的表現與降溫時的表現。

當物體溫度上升時，source則會參考Increasing Curve為隨溫度變化的瓦數。

當物體溫度下降時，source則會參考Decreasing Curve為隨溫度變化的瓦數。



Source-1定義

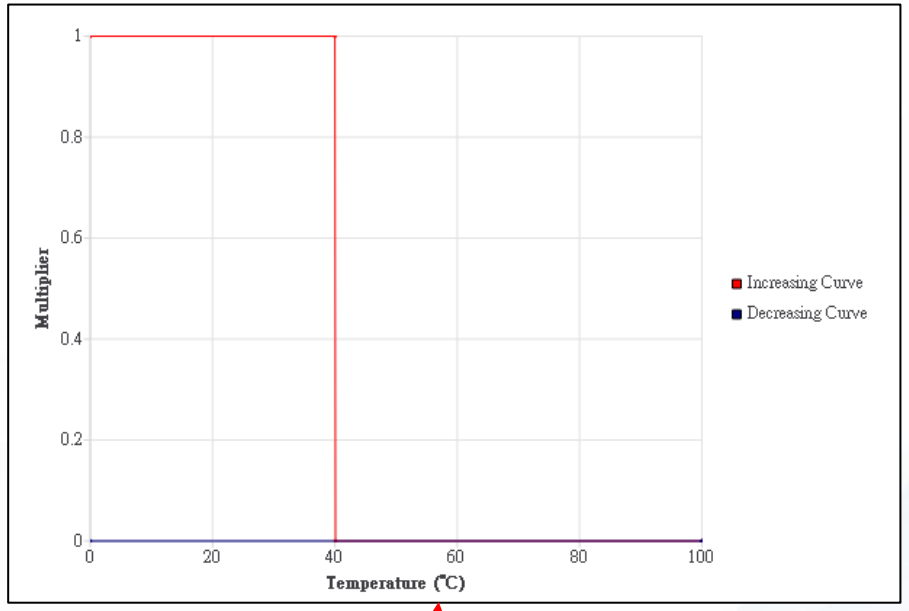
整體溫度有兩種狀態(Increasing & Decreasing)

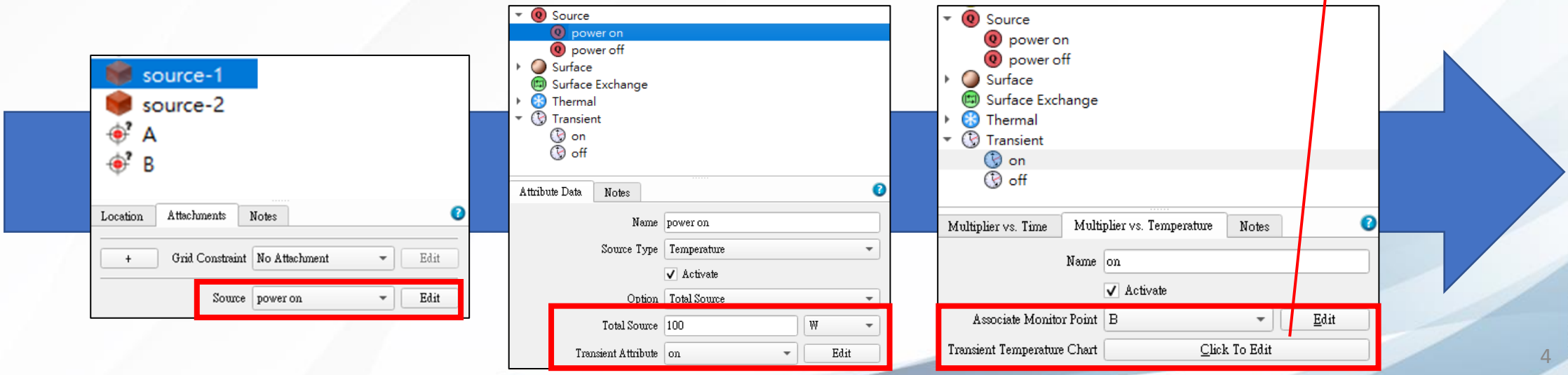
升溫時(Increasing Curve;升溫向右，僅能走紅色曲線)：

- T_B<40 ℃→ power on (100W)
- T_B>40 ℃→ power off (0W)

降溫時(Decreasing Curve;升溫向左，僅能走深藍色曲線)：

- power off (0W)





Source-2定義

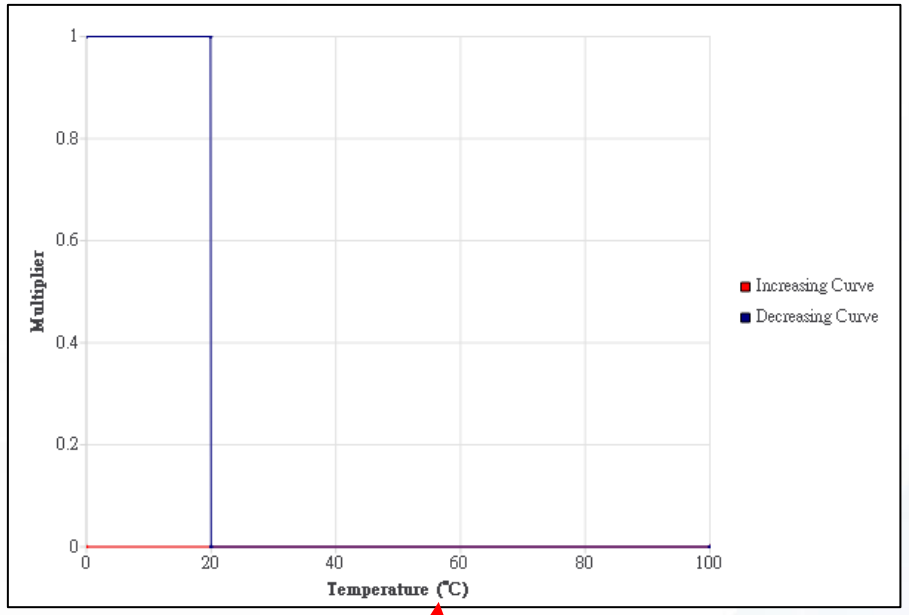
整體溫度有兩種狀態(Increasing & Decreasing)

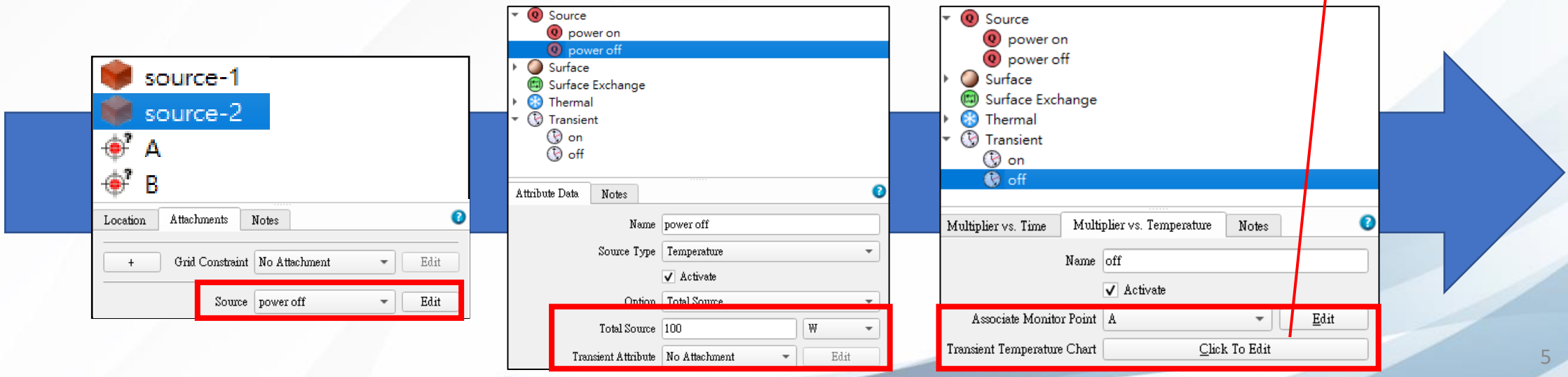
升溫時(Increasing Curve ;升溫向右，僅能走紅色曲線)：

- power off (0W)

降溫時(Decreasing Curve;升溫向左，僅能走深藍色曲線)：

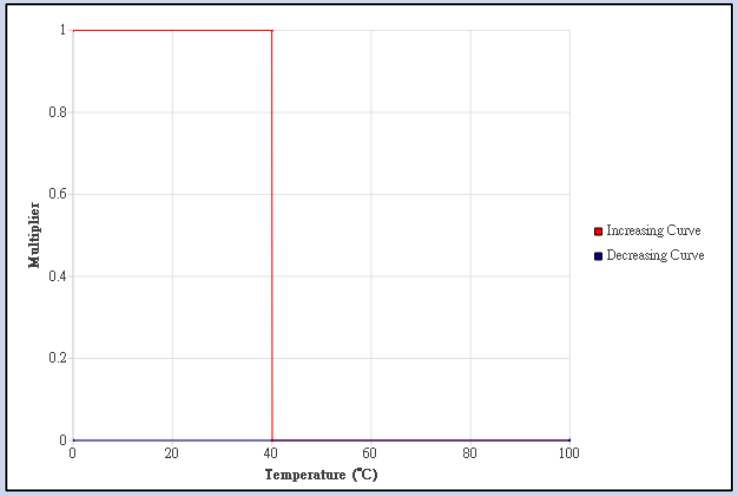
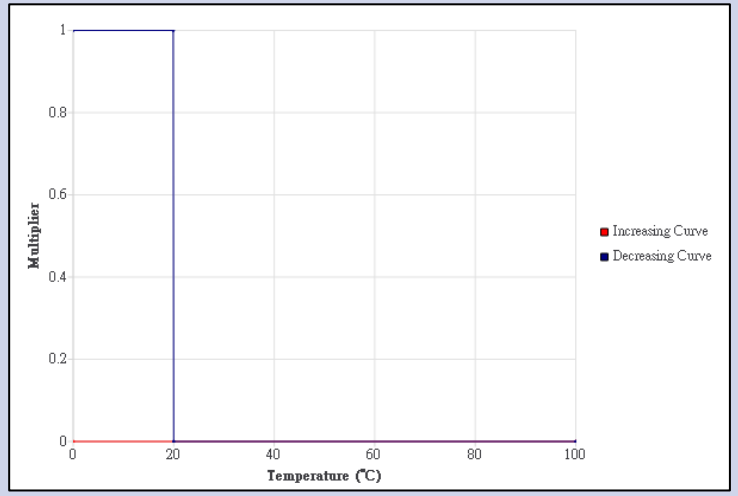
- T_A>20 ℃→ power off (0W)
- T_A<20 ℃→ power on (100W)





總整理

利兩個Source smart part代表熱源，分別於升溫與降溫的狀況下放熱。

	Source-1	Source-2
升溫(△T為正值)	• T_B<40℃，放熱(100W) • T_B>40℃，不放熱(0W)	• 不放熱(0W)
降溫(△T為負值)	• 不放熱(0W)	• T_A<20℃，放熱(100W) • T_A>20℃，不放熱(0W)
		

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The End

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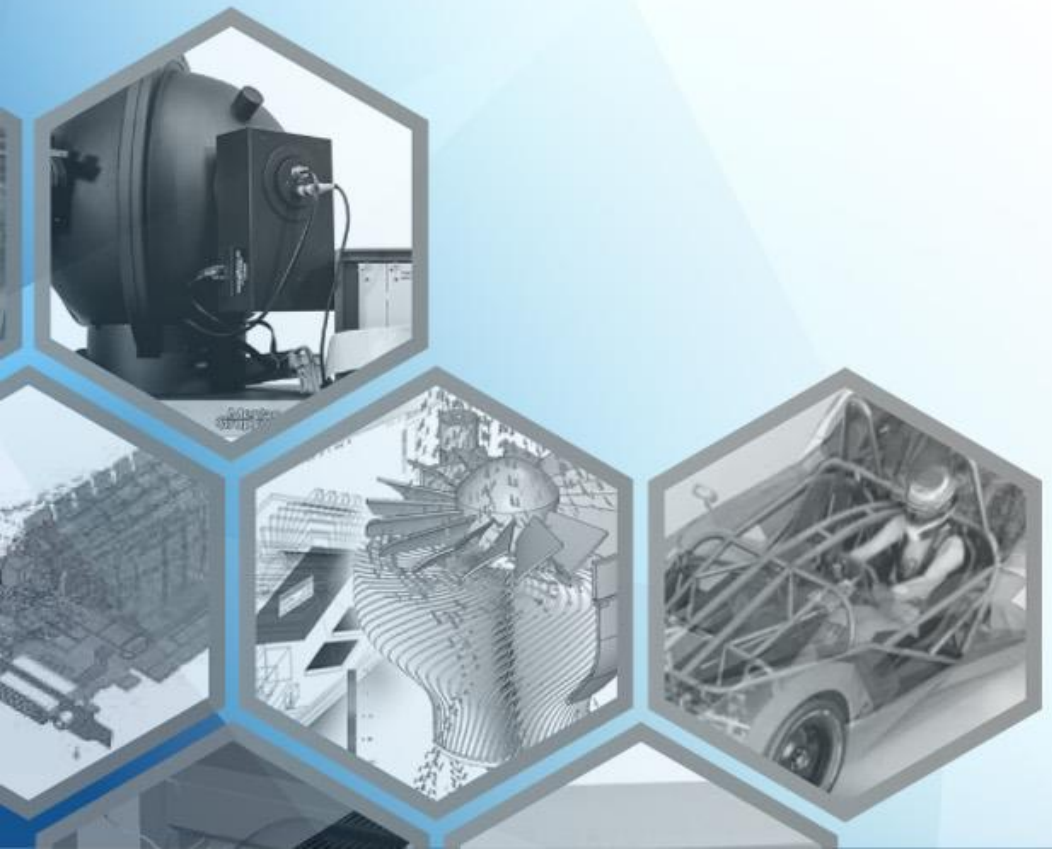

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