

# Practice Course in Plasma

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**2021 spring semester**

**Thursday 9:10-12:00**

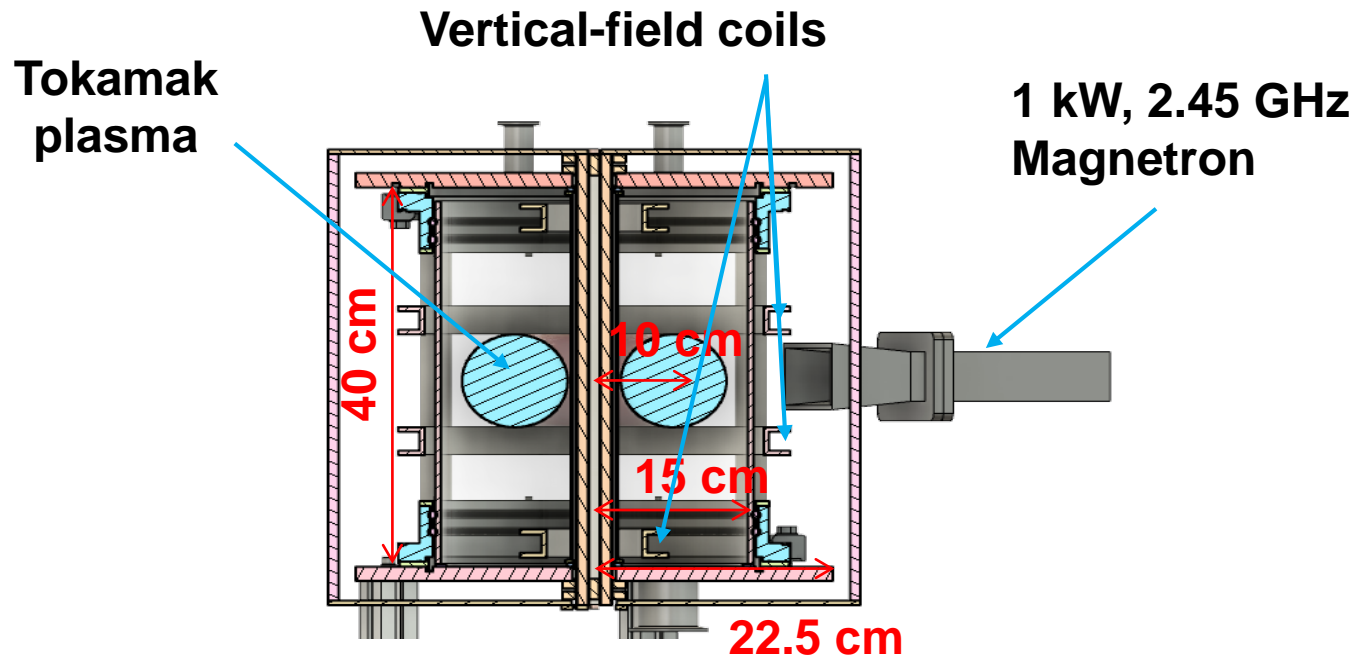
**Material: <http://capst.ncku.edu.tw/PGS/index.php/teaching/>**

**Lecture 10**

# The prospective system design



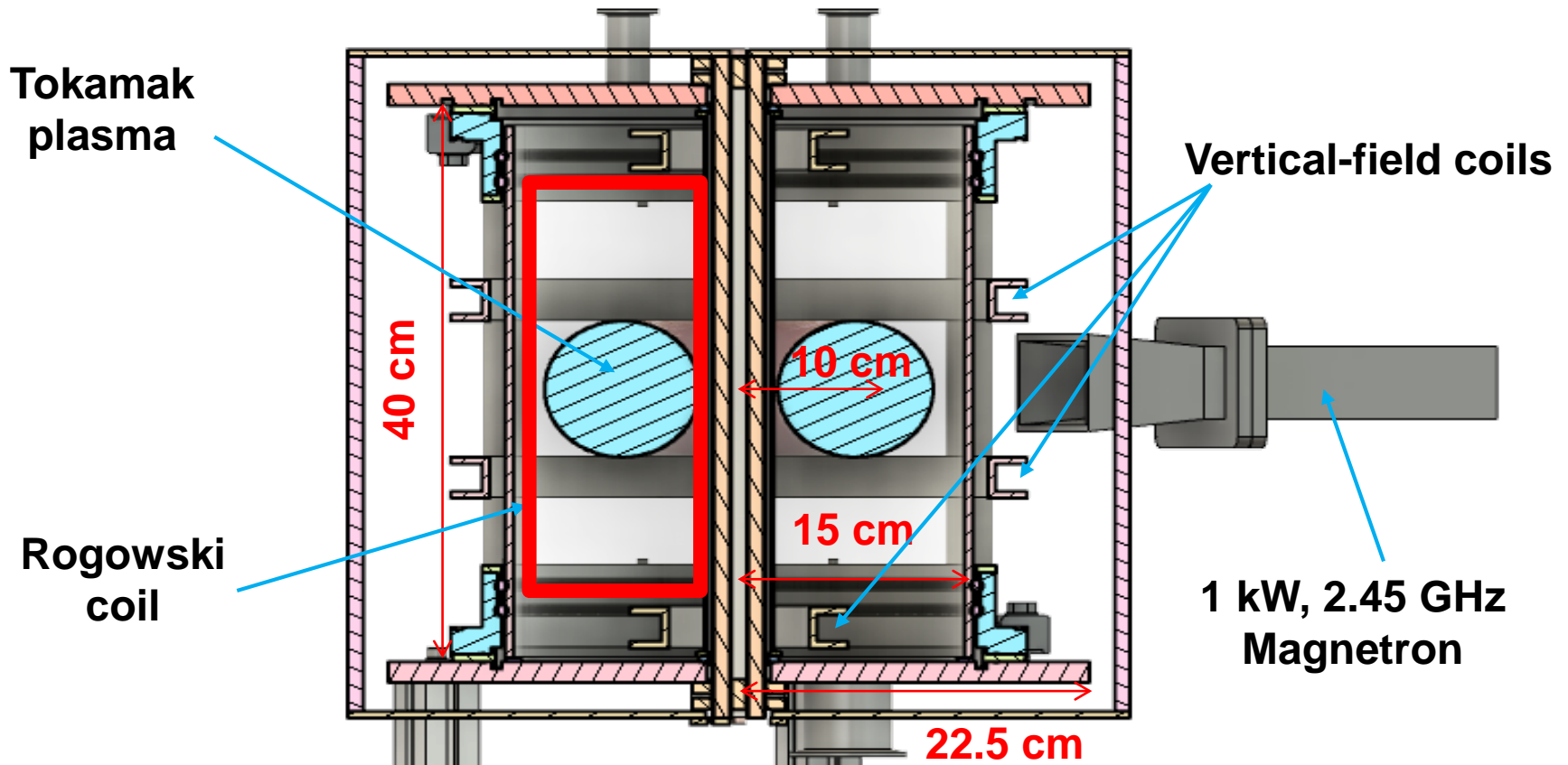
- (1) Vertical field coil (VF coil):  $B_v=12$  G w/ curvature of 5 cm.
- (2) Pulse forming network for driving VF coil: ? kA.
- (3) Rogowski coil for measuring plasma current:  $I_p = 2$  kA.
- (4) Triple probe for measuring Plasma characteristics:  $T_e \sim 1$  eV,  $n_e \sim 10^{19} \text{ m}^{-3}$ .



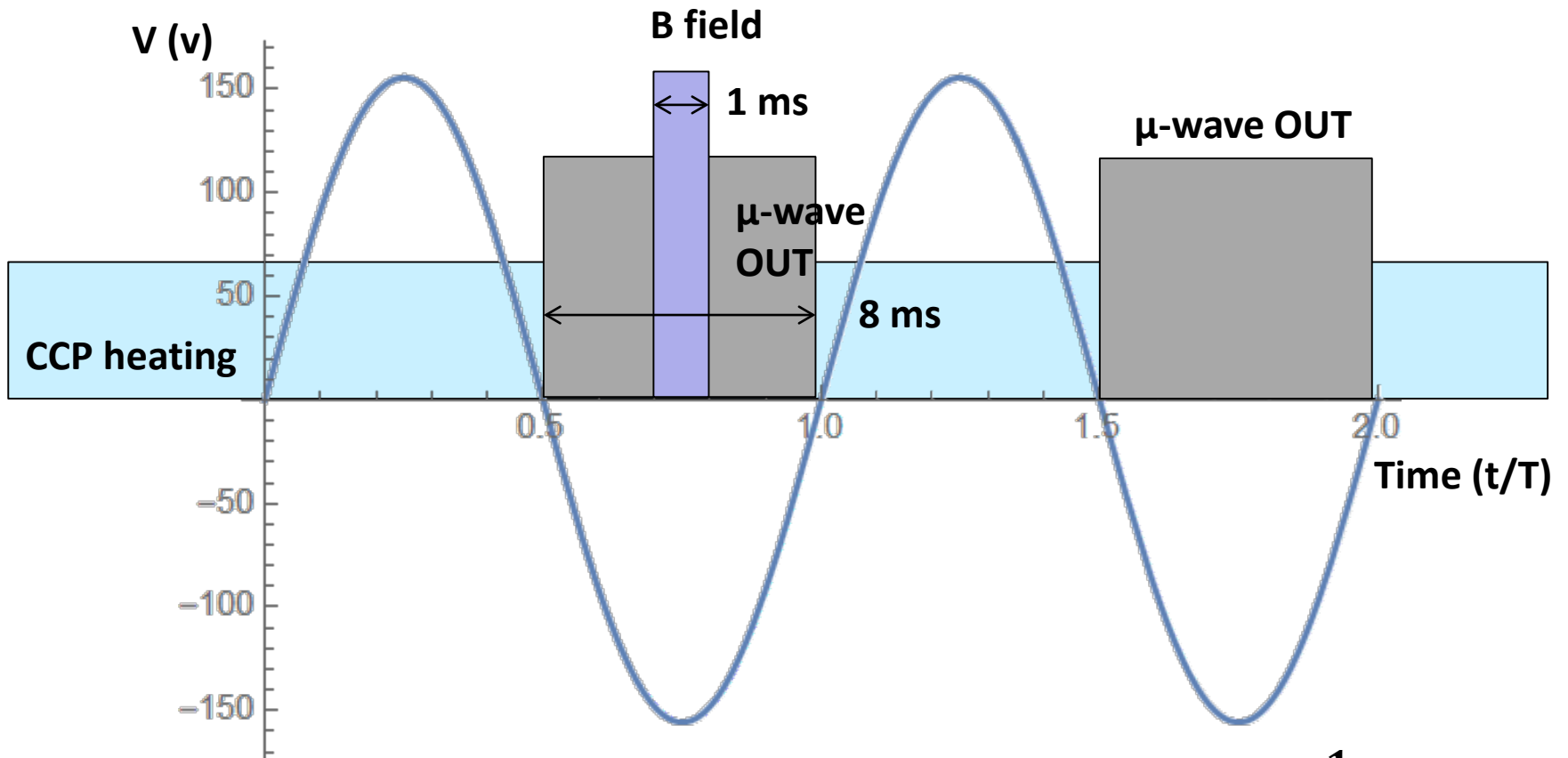
# The Rogowski coil needs to wrap around the plasma



(1) Rogowski coil for measuring plasma current:  $I_p = 2$  kA.



# Time sequence



$$T = \frac{1}{60} = 16.7 \text{ ms}$$

# Class schedule



Week	Progress Description
1	2/25 簡介、分組、課程執行介紹
2	3/4 慣性控制核融合
3	3/11 磁場控制核融合
4	3/18 真空系統
5	3/25 電漿源
6	4/ 1 校慶(放假)
7	4/ 8 電漿加熱技術
8	4/ 15 脈衝功率系統
9	4/ 22 電漿量測

Week	Progress Description
10	4/ 29 電漿量測
11	5/ 6 電漿量測/小組討論
12	5/ 13 各組口頭報告設計
13	5/ 20 托克馬克各次系統實作
14	5/ 27 托克馬克各次系統實作
15	6/ 3 各組口頭報告進度
16	6/10 托克馬克各次系統實作
17	6/17 托克馬克實作
18	6/24 各組口頭報告實驗成果

# Grading

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- **4 people in each team**
- **Grade by team (75 % of the final score)**
  - **Design presentation (15 %, i.e., 11.25 % of the final score)**
  - **Progress presentation (15 %, i.e., 11.25 % of the final score)**
  - **Final presentation (20 %, i.e., 15 % of the final score)**
  - **Experimental results (20 %, i.e., 15 % of the final score)**
  - **Final report (30 %, i.e., 22.5 % of the final score)**
- **Grade by person in each team (25 % of the final score)**
  - **Contribution of each person needs to be provided in each presentation and report.**
  - **The percentage of the contribution will be added to the final score.**
  - **Ex1: Contribution of 25 % of design presentation => 25x15% will be added to the final score.**