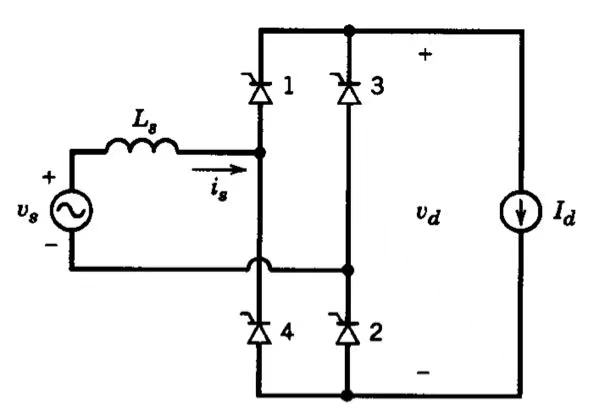
**Power Electronics-Assignment-3**

1. Complete the circuit analysis with ac-side inductance of the single-phase thyristor bridge referring to that of the single-phase diode bridge. Derive the expressions of the input current , the overlap angle and the average voltage.



2. A DC load takes a level current of 100A from a single-phase thyristor AC-DC bridge. If the AC phase voltage is 220V and the conditions of the firing delay angle are listed as follows, calculate: 1) the mean load voltage, 2) the power factor on the AC side; draw the waveforms of output voltage, input currents and thyristor voltage with the reference of input voltages. Neglect device volt-drop. Assume the commutation overlap negligible.

The mean load voltage:

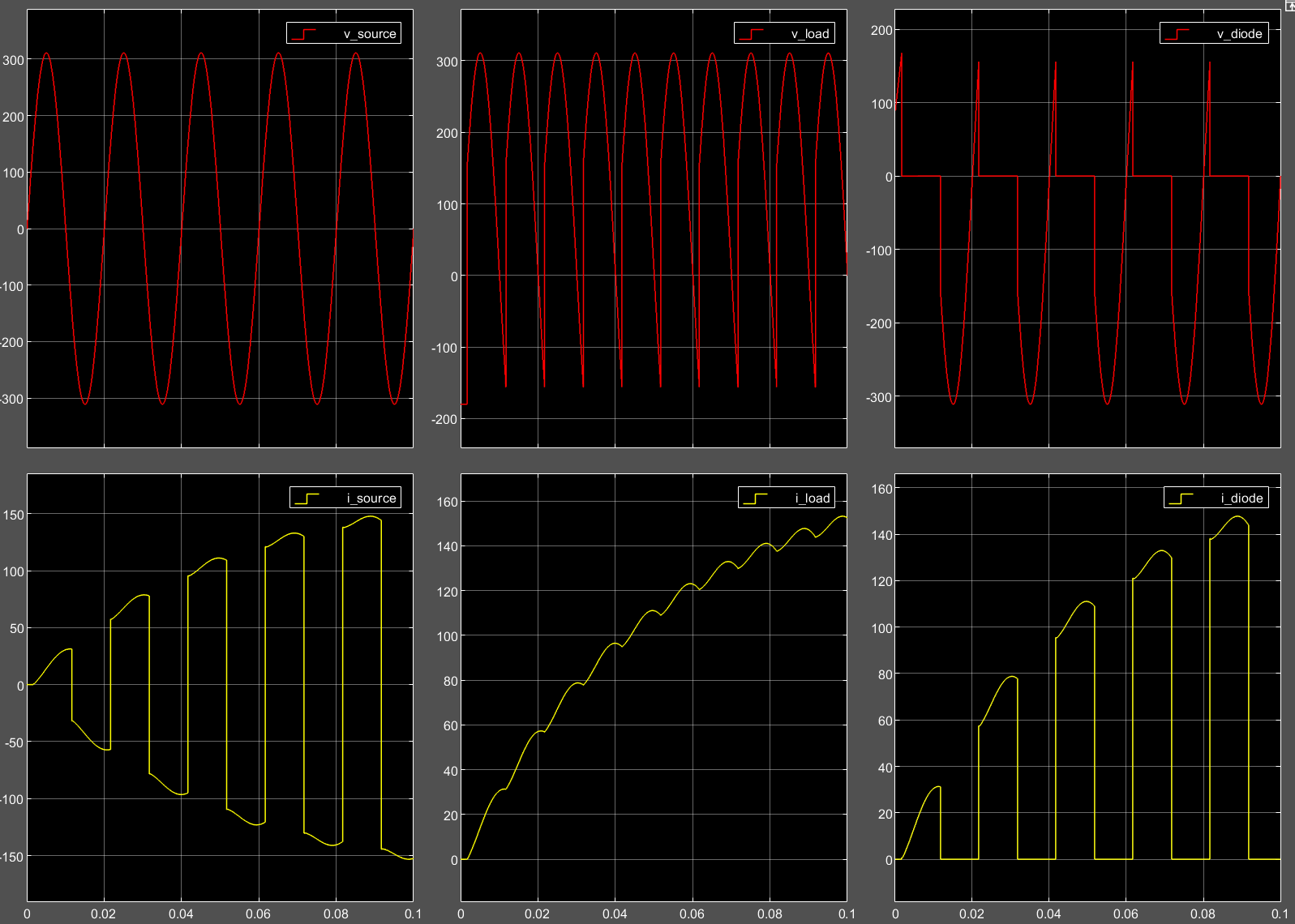
The power factor on the AC side;

Circuits:

一張含有 圖表, 方案, 工程製圖, 文字 的圖片

自動產生的描述

Waveforms:



The mean load voltage:

The power factor on the AC side;

Waveforms:

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自動產生的描述