

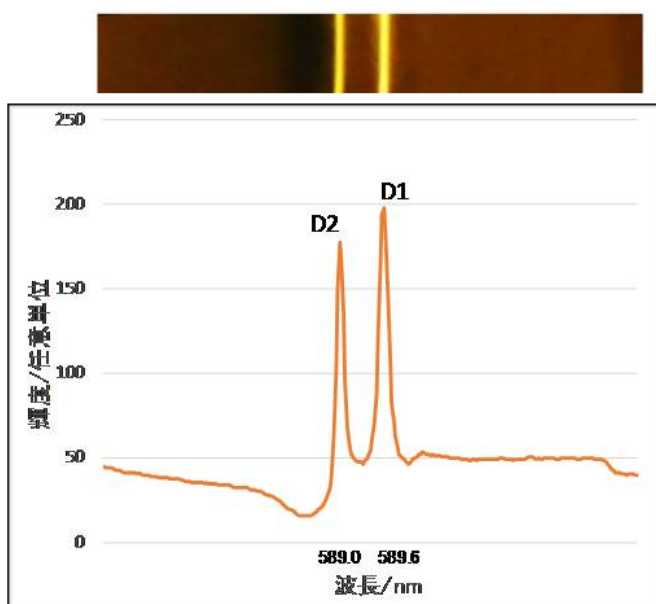
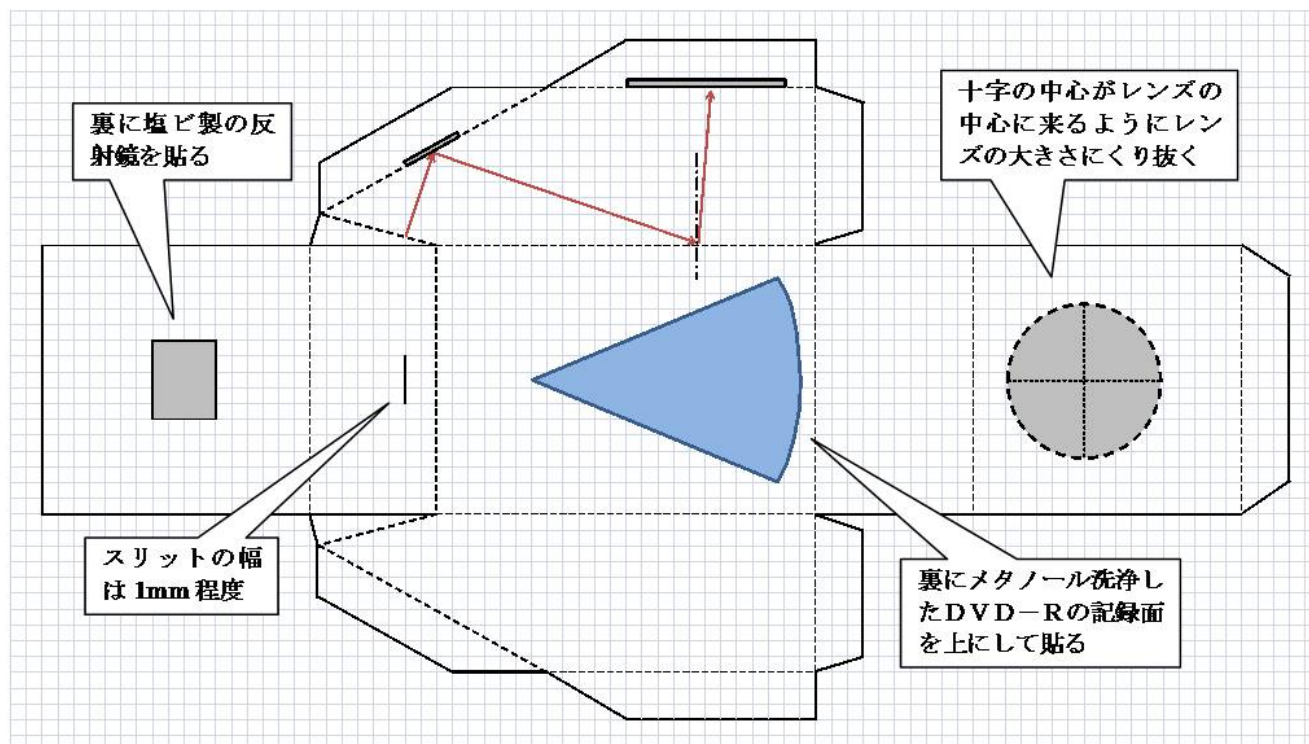
## Spectroscopy of plasma generated in a microwave using a newly developed simple spectrometer with high resolution

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We conducted the following basic research on plasma. When a mechanical pencil' s core is heated in a microwave oven, yellow plasma is emitted. High resolution spectrometers are expensive and we cannot buy them. In order to confirm the identity of this light, we developed the simple spectroscope that has the resolution to split the D line of a sodium lamp into two lines, and that can obtain a stable and clear image with a digital camera. We used this spectrometer to split the plasma light emitted from the mechanical pencil' s core in a microwave oven. As a result, the light was found to be a strong emission line of sodium. The plasma is generated by exciting the sodium of the ceramic table by the mechanical pencil's core acting as an antenna.

Keywords: plasma in a microwave oven, developed of the simple spectroscope, exciting of the sodium



上：製作した簡易分光器の型紙とその精度（ナトリウムのD線が2本に分光されている）

右：電子レンジ内でシャープペンシルの芯の両端から周期的にプラズマが発生し、ガラスのコップ内上方で一体となるようす

