OVERVIEW OF LMJ ALIGNMENT TO TARGET CHAMBER CENTER AND
VERY FIRST RESULTS

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This paper describes the alignment system developed on the Laser Mégajoule (LMJ) in
order to focus the laser beams and point the plasma diagnostics on the target. After an
overview of the main laser components and alignment architecture we detail the alignment
sequence which includes:
- Laser beams alignment by a double autocollimation on the phase plate located at
the entrance of the final optic system,
- Plasma diagnostic alignment using two green pointers materializing its position,
- Target alignment with 6 tele-microscopes.

The end of the year 2014 was devoted to the progressive commissioning of the LMJ to
achieve the first experimental campaign. Alignment performances have been validated at
very low power (1J front end shots) on an active target supporting a CCD sensor. Additional
high power pointing shots have been performed to complete the characterization. We have
demonstrated beam to target positioning accuracy < 100μm rms.