

one of a band and a tape of target material;
 guide means supporting a part of the target material which
 includes the region of the target; and
 transport means arranged to move the target material over
 the guide means.

7. An X-ray source as claimed in claim 6, wherein:
 the guide means is apertured, behind the region of the
 target, to allow target debris, produced on perforation
 of the target by laser light focussed thereon, to escape
 through the guide means.

8. An X-ray source as claimed in claim 1, wherein:
 the target is housed within a chamber containing gas, at
 approximately atmospheric pressure, which reduces a
 range of travel of debris ejected from the target when
 subjected to laser light focussed thereon.

9. An X-ray source as claimed in claim 1, further comprising:

means for blowing a current of gas over a surface of the
 region of the target.

10. An X-ray source as claimed in claim 6, wherein:
 the laser light is arranged to impinge obliquely on the
 region of the target; and

an X-ray beam line is arranged on a normal from the
 region.

11. An X-ray source as claimed in claim 1, wherein:
 successive pulses of a train of pulses are focussed at
 different points of the target.

12. An X-ray source as claimed in claim 11, wherein the
 laser light source comprises:

multiplexer means for converting a single pulse having a
 pulse duration in the range 1–10 ps into a train of such
 pulses with a directional inequality between at least
 some of the pulses such that the means for focussing
 will focus successive pulses of the train on to closely
 adjacent but different spots on the target.

13. An X-ray source as claimed in claim 1, wherein the
 laser light source comprises:

means for generating the trains of light pulses; and
 amplifier means arranged to amplify the pulses prior to
 their being focussed on the target.

14. An X-ray source as claimed in claim 13, wherein the
 amplifier means comprises:

a driver-stage excimer amplifier arranged to provide a first
 amplification of the pulses;

beam splitting means arranged to split each pulse train
 into a plurality of pulse trains in parallel;

a plurality of output-stage excimer amplifiers each
 arranged to receive and further amplify a respective one
 of the pulse trains in parallel; and

means for focussing outputs of all the output-stage ampli-
 fiers on the target.

15. An X-ray source as claimed in claim 13, wherein the
 amplifier means comprises:

a driver-stage excimer amplifier;

beam splitter means arranged to split each pulse train into
 two pulse trains and pass the two pulse trains simulta-
 neously in opposite directions through the driver-stage
 excimer amplifier to provide a first amplification of the
 pulses of both trains;

means for delaying one of the amplified trains relative to
 the other and combining them in a single combined
 pulse train in which the pulses of the one train are
 preceded by those of the other;

at least one output-stage excimer amplifier each arranged
 to receive (via a beam splitter if more than one) and
 further amplify the combined pulse train; and

means for focussing outputs of the at least one output-
 stage excimer amplifier on the target.

16. An X-ray source as claimed in claim 13, wherein the
 amplifier means comprises:

a driver-stage excimer amplifier arranged to provide a first
 amplification of the pulses of the train;

multiplexing means arranged to convert the thus amplified
 train into a plurality of trains delayed relative to one
 another;

means arranged to combine the plurality of trains sequen-
 tially one after another to form a combined pulse train
 of correspondingly increased length; and

a high-power output-stage excimer amplifier having a
 long discharge time, arranged to receive and further
 amplify pulses of the combined pulse train, the com-
 bined pulse train effecting discharge of the high-power
 output-stage excimer amplifier.

17. An X-ray source as claimed in claim 16, wherein:
 the multiplexing means which provides the plurality of
 trains forming the combined pulse train is so arranged
 that the plurality of trains pass through the output stage
 along respective optical axes which are angularly dis-
 placed from one another.

18. An X-ray source as claimed in claim 17, wherein:
 the plurality of trains forming the combined pulse train
 are beam-expanded and spatially mixed to fill an aper-
 ture of the output amplifier by a telescope which also
 collimates a beam of each train and reduces angles
 between their respective optical axes.

19. An X-ray source as claimed in 18, further comprising:
 means for focussing the further amplified combined train,
 issuing from the output amplifier, at a plurality of spots
 on the target, corresponding to the plurality of optical
 axes of the plurality of trains forming the combined
 train.