Higher-order-mode fiber optimized for energetic soliton propagation

We describe the design optimization of a higher-order-mode (HOM) fiber for energetic soliton propagation at wavelengths below 1300 nm. A new HOM fiber is fabricated according to our design criteria. The HOM fiber is pumped at 1045 nm by an energetic femtosecond fiber laser. The soliton self-frequency shift process shifts the center wavelength of the soliton to 1085 nm. The soliton has a temporal duration of 216 fs and a pulse energy of 6.3 nJ. The demonstrated pulse energy is approximately six times higher than the previous record in a solid core fiber at wavelengths below 1300 nm.
Scopus rating (2010): SJR 2.637 SNIP 2.263
Web of Science (2010): Impact factor 3.318
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 3.077 SNIP 2.658
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 3.354 SNIP 2.384
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 3.443 SNIP 2.157
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 3.126 SNIP 2.319
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 3.245 SNIP 2.451
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 3.523 SNIP 2.726
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 3.725 SNIP 2.626
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 3.571 SNIP 2.415
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 3.776 SNIP 2.273
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 4.157 SNIP 1.716
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 3.926 SNIP 1.685
Original language: English
DOIs:
10.1364/OL.37.003459
Research output: Research - peer-review › Journal article – Annual report year: 2012