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One "Most Wanted" number from the wanted lists issued with Page 109 was factored on Page 111. MersenneForum and Womack factored 10,263− by the Special Number Field Sieve.

Three "Most Wanted" numbers from the wanted lists issued with Page 110 were factored on Page 111. Womack and Dodson factored 2,827−. Leyland factored 3,508+. Both were done with the SNFS. CWI factored 7,281+ with the Elliptic Curve Method.

Four "More Wanted" numbers from the wanted lists issued with Page 110 were factored on Page 111. MersenneForum and Womack factored 2,859− and Edwards factored 2,1606M by the SNFS. CADO factored 3,527− and CWI factored 6,311− using the General NFS.

Papadopoulos and Womack factored the "Smaller-but-Needed" number 5,403− on Page 111 by GNFS.

New wanted lists are enclosed.

CWI means Peter Montgomery, Herman te Riele, Willemien Ekkelkamp and Andrey Timofeev at the Centrum voor Wiskunde en Informatica in Amsterdam. ECMNET means Paul Zimmermann, Alex Kruppa, Torbjörn Granlund, Michel Quercia, Witold Grabysz, Vilmar Trevisan and many helpers who use the GMP-ECM program of Kruppa and Zimmermann. NFSNET″ is a group of factorers lead by Richard Wackerbarth and Paul Leyland. They are supported in the sieving effort by Bruce Dodson (Lehigh U), Jeroen Demeyer (U Gent) and Greg Childers (Cal State Fullerton), as well as the contributions of a number of additional volunteer sievers. See their URL `http://www.nfsnet.org` . Mersenneforum is a group with a section interested in factoring. See `http://www.mersenneforum.org` . CADO is a group led by Alex Kruppa.

There were two new champions for factoring Cunningham numbers on this page. Recall that a champion is one of the best two records in its class. The C182 of 2,1157− split in # 5723 was a new champion (first place) for General Number Field Sieve by size of number factored. The P128 of 5,383+ shown in # 5714 was a new champion (first place) for largest penultimate factor. A list of recent champions is enclosed.

The first holes done on Page 111 are in # 5697, # 5698, # 5699, # 5708, # 5709, # 5719, # 5726, # 5727 and # 5728. The second holes done on Page 111 are in # 5704 and # 5705. The third holes done on Page 111 are in # 5700, # 5713 and # 5715. The fourth holes done on Page 111 are in # 5701, # 5702, # 5706, # 5707 and # 5725. The fifth holes done on Page 111 are in # 5718, # 5720, # 5722 and # 5730.

The smallest new factor reported on Page 111 has 52 digits. See # 5710. The largest number factored on Page 111 has 270 digits. See # 5721.

See the URL `http://www.prothsearch.net/fermat.html` for Wilfrid Keller's list of all known Fermat factors.

No new Mersenne primes have been found since the last page. The current largest known prime is $2^{43112609} - 1$. See the URL `http://primes.utm.edu/primes/` for Chris Caldwell's database of the largest known primes (updated daily).

See the URL `http://www.cerias.purdue.edu/homes/ssw/cun/index.html` for the online Cunningham book. The full text is available at the AMS web site: `http://www.ams.org/online_bks/conm22` .

Please send me any address changes.

Keep the factors coming!

Sam Wagstaff