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Six "Most Wanted" numbers from the wanted lists issued with Page 109 were factored on Page 110. Kleinjung factored 2,824+. Edwards factored 11,227−. Buhrow factored 10,236+. Childers factored 7,277− and 6,302+. Silverman and Leyland factored 7,277+. All were factored using the Special Number Field Sieve. (Page 111 will report the factorization of 10,263− by MersenneForum.)

Five "More Wanted" numbers from the wanted lists issued with Page 109 were factored on Page 110. Batalov factored 2,1598M using the General NFS. Silverman factored 2,836+ using SNFS. Dodson and Womack factored 2,853− using SNFS. NFSNET″ factored 3,523− using SNFS. Batalov and Dodson factored 2,1618L using SNFS.

Gaudry, Thome and Zimmermann factored the "Smaller-but-Needed" number 2,1790M and Edwards factored 2,2238M on Page 110. Both were done 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 .

There was one new champion for factoring Cunningham numbers on this page. Recall that a champion is one of the best two records in its class. The C180 of 5,421− split in # 5667 was a new champion (first place) for General Number Field Sieve by size. A list of recent champions is enclosed.

The first holes done on Page 110 are in # 5666, # 5669, # 5671, # 5677, # 5679, # 5680, # 5687, # 5688 and # 5693. The second holes done on Page 110 are in # 5685, # 5686, # 5690 and # 5695. The third holes done on Page 110 are in # 5683 and # 5684. The fourth holes done on Page 110 are in # 5665, # 5668, # 5674, # 5689 and # 5694. No fifth hole was done on Page 110.

The smallest new factor reported on Page 110 has 51 digits. See # 5695. The largest number factored on Page 110 has 298 digits. See # 5675.

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