From ???@??? Mon Apr 05 23:52:59 1999
Return-Path: <psiegel@cwc.ucsd.edu>
Received: from mailbox2.ucsd.edu ([132.239.1.54]) by mail3.san.rr.com
          (Post.Office MTA v3.5.3 release 223 ID# 0-53939U80000L80000S0V35)
          with ESMTP id com for <hpfister@san.rr.com>;
          Mon, 5 Apr 1999 16:29:03 -0700
Received: from split.ucsd.edu (split.ucsd.edu [132.239.24.94])
        by mailbox2.ucsd.edu (8.9.1a/8.9.1) with ESMTP id QAA24841
        for <hpfister@ucsd.edu>; Mon, 5 Apr 1999 16:30:52 -0700 (PDT)
Received: from localhost by split.ucsd.edu (8.9.3/8.9.1) with ESMTP id
QAA07869;
        Mon, 5 Apr 1999 16:30:49 -0700 (PDT)
X-Authentication-Warning: split.ucsd.edu: psiegel owned process doing -bs
Date: Mon, 5 Apr 1999 16:30:49 -0700 (PDT)
From: Paul Siegel <psiegel@cwc.ucsd.edu>
X-Sender: psiegel@split.ucsd.edu
To: andre desrosiers <andre.desrosiers@conexant.com>,
        bruce moision <bmoision@cwc.ucsd.edu>,
        henry pfister <hpfister@ucsd.edu>,
        hugo tullberg <htullber@ece.ucsd.edu>, jilei hou <jhou@cwc.ucsd.edu>,
        kai tang <ktang@ece.ucsd.edu>, mats oberg <moberg@cwc.ucsd.edu>,
        pranesh sinha <pranesh.sinha@conexant.com>
Subject: Forwarded mail....
Message-ID: <Pine.GSO.4.05.9904051630020.7620-100000@split.ucsd.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII
Status: OR

Hi. Some of you may be interested in this new
paper from Rudi Urbanki, et al.

Paul

****
Paul H. Siegel
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  Computer Engineering, 0407
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La Jolla, CA 92093-0407

TEL: 1-619-822-0158   FAX: 1-619-534-2486
****

---------- Forwarded message ----------
Date: Mon, 5 Apr 1999 18:19:26 -0400
From: ART@scarpia.research.bell-labs.com
To: psiegel@ucsd.edu

Dear Colleague:

In recent weeks we designed sequences of low-density parity check
codes that provably perform at rates extremely close to the Shannon
capacity. For instance, our best code of rate 1/2 is
asymptotically less than 0.06dB away from capacity for the AWGN
channel. Simulation results indicate that for a length of 1,000,000 we
can achieve an error probability of 10^(-6) at 0.13dB from capacity.
Our codes are built from highly irregular bipartite graphs with
carefully chosen degree patterns on both sides, by optimizing the
threshold obtained in our previous paper.

Moreover, the paper gives some more theoretical insight into the behavior of the decoding process.

A preprint of our paper, entitled
"Design of provably good low-density parity check codes"
can be obtained at

http://cm.bell-labs.com/who/{ruediger or tjr}/pub.html

As always, comments are most welcome.

Best regards,

Tom Richardson
Amin Shokrollahi
Ruediger Urbanke