From: Moody, Dustin (Fed)
To: (b) (6)
Subject: Fw: Haven"t heard from you in awhile. Are you good?
Date: Thursday, April 11, 2019 3:08:35 PM

From: Moody, Dustin (Fed)
Sent: Thursday, April 11, 2019 2:45 PM
To: Dang, Thinh H. (Fed)
Subject: Re: Haven't heard from you in awhile. Are you good?

Thinh,

In Theorem 5, you were looking to find the new formula for the codomain curve where the formula holds with no w terms. I believe I've found them, and verified it by example.

The idea is just that you have the image of the point under the isogeny is:
(XYZ : (2w+1) * stuff : (2w+1) * stuff)
You can compose with the isomorphism (x,y,z)->(kx, ky, kz).
So we use k=1/(2w+1).
You then have something of the form (1/(2w+1)XYZ : stuff : stuff).
Then compose with the isomorphism (x,y,z) -> (kx,y,z). This maps H_{a,d} to H_{ak^3,kd}.
This moves it to something of the form (XYZ : stuff : stuff) with no w. That is, it's the same formula as in Theorem 5, but with no terms involving w.

The new image curve is H_{Ak^3,Dk}, where A,D are as you give in theorem 5, and k=1/(2w+1).

Concretely, the image curve is
newA=-3(d^2c+3dc^2+9a)/(2w+1)^2
newD=-3(d+6c)/(2w+1)^2

But then, note (2w+1)^2 = -3. So then
newA=d^2c+3dc^2+9a
newD=d+6c

And note also there is no problem in characteristic 3 now.

Dustin

From: Moody, Dustin (Fed)
Sent: Monday, April 8, 2019 1:35 PM
To: Dang, Thinh H. (Fed)
Subject: RE: Haven't heard from you in awhile. Are you good?

Thinh,
We should meet again, and check our progress.

Dustin

From: Dang, Thinh H. (Fed)
Sent: Friday, April 5, 2019 1:15 PM
To: Moody, Dustin (Fed) <dustin.moody@nist.gov>
Subject: Re: Haven't heard from you in awhile. Are you good?

Hello Dr. Moody;

I've been working on the computational cost section.

From: Moody, Dustin (Fed)
Sent: Wednesday, April 3, 2019 10:22 AM
To: Dang, Thinh H. (Fed)
Subject: RE: Haven't heard from you in awhile. Are you good?

Any progress on the Hessian paper?

From: Dang, Thinh H. (Fed)
Sent: Thursday, March 28, 2019 1:32 PM
To: Moody, Dustin (Fed) <dustin.moody@nist.gov>
Subject: Re: Haven't heard from you in awhile. Are you good?

Hello Dr. Moody;

I've been busy the last two weeks. I'm good.

Thank you.

From: Moody, Dustin (Fed)
Sent: Thursday, March 21, 2019 8:21 AM
To: Dang, Thinh H. (Fed)
Subject: Haven't heard from you in awhile. Are you good?