

From: [Perlner, Ray \(Fed\)](#)
To: [Alperin-Sheriff, Jacob \(Fed\)](#)
Subject: RE: This is the attack I was looking for based on polynomial factorization
Date: Friday, October 20, 2017 3:24:00 PM

Thanks. Reading further in the submission, they explicitly say they are checking this.

From: Alperin-Sheriff, Jacob (Fed)
Sent: Friday, October 20, 2017 3:24 PM
To: Perlner, Ray (Fed) <ray.perlner@nist.gov>
Subject: Re: This is the attack I was looking for based on polynomial factorization

Looks fine too

From: "Perlner, Ray (Fed)" <ray.perlner@nist.gov>
Date: Friday, October 20, 2017 at 3:22 PM
To: "Alperin-Sheriff, Jacob (Fed)" <jacob.alperin-sheriff@nist.gov>
Subject: RE: This is the attack I was looking for based on polynomial factorization

Good. Can you check 10163 and 32749 too?
These are used in CAKE

From: Alperin-Sheriff, Jacob (Fed)
Sent: Friday, October 20, 2017 3:17 PM
To: Perlner, Ray (Fed) <ray.perlner@nist.gov>
Subject: Re: This is the attack I was looking for based on polynomial factorization

So it looks like they checked LEDAKem to ensure (x^{p+1}) doesn't split modulo 2 beyond $(x+1)(x^{p-1} - \dots - x+1)$ for any of their chosen primes

From: "Perlner, Ray (Fed)" <ray.perlner@nist.gov>
Date: Friday, October 20, 2017 at 2:40 PM
To: "Alperin-Sheriff, Jacob (Fed)" <jacob.alperin-sheriff@nist.gov>
Subject: This is the attack I was looking for based on polynomial factorization

<https://arxiv.org/pdf/1504.05431.pdf>