

# 密文重复数据删除机制的 频率分析攻击

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现有频率分析攻击在加密重复数据删除中效果不佳，  
如何有针对性的提高攻击效果？

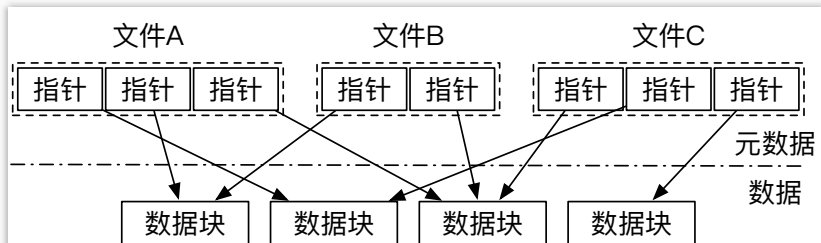
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## 对选题的分析

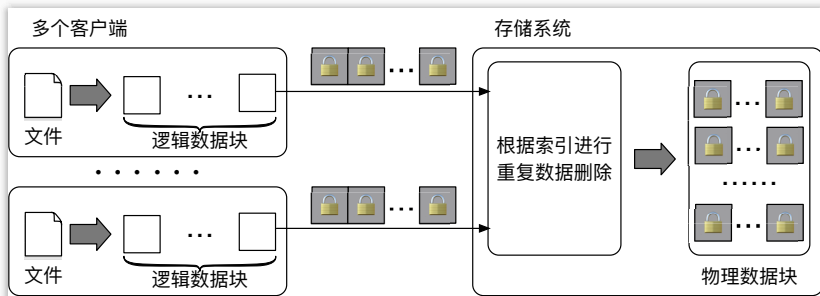
- 背景知识
- 研究的意义
- 研究的目的

## 背景知识-重复数据删除



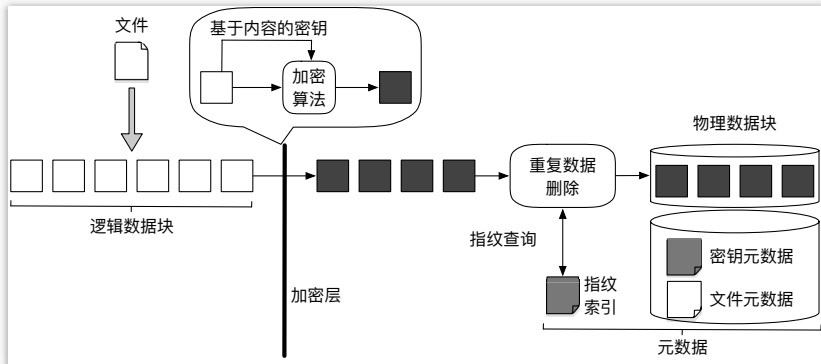
重复数据删除系统的存储方式

## 背景知识-重复数据删除



重复数据删除系统的运作流程

## 背景知识-密文重复数据删除



密文重复数据删除的运作流程

数据块频率泄漏问题：加密重复数据删除广泛应用MLE，导致数据块的频率信息泄漏。

填补频率分析攻击研究空白；对理解加密重复数据删除的实际安全性，并降低其在非适合场景下的误用风险具有重要作用。



## 研究的目的

在理论上：构造针对加密重复数据删除的频率分析攻击，揭示实践中的安全隐患。

在技术上：以理论研究为支撑，设计并实现针对加密重复数据删除的频率分析攻击工具，并在真实系统中进行理论验证和攻击效果测试。

# 国内外研究现状

- 加密重复数据删除
- 频率分析攻击

# Setup

Setup is really easy: `\usetheme{material}`

Further you might want to customize the background with:

`\useLightTheme` or `\useDarkTheme`

and primary and accent colors.

There are some colors from the Material Design guidelines coded in. You access those by:

`\usePrimary[Color]` and `\useAccent[Color]`

`Color`  $\in$  { Red, Pink, Purple, Deep Purple, Indigo, Blue, Light Blue, Cyan, Teal, Green, Light Green, Lime, Yellow, Amber, Orange, Deep Orange, Brown, Grey, Blue Grey }

or you can pick your own:

`\usePrimary{primary color, darker primary color, text color}`  
`\useAccent{primary color, text color}`

`darker primary color` is just darker version of `primary color`  
and `text color` is color of text on `primary` or `accent colors`.

All content should only appear in cards. There are several variants:

- plain card
- card with a title
- card with an image
- tiny card

## plain card

```
\begin{card}
```

[your content here]

```
\end{card}
```

card with a title

Title

```
\begin{card}[Title]
```

```
[your content here]
```

```
\end{card}
```

card with an image



`\cardImg{file name}{width}`



```
\begin{cardTiny}
```

[your content here]

```
\end{cardTiny}
```

Tiny card is useful for labels where too much whitespace gets in the way.

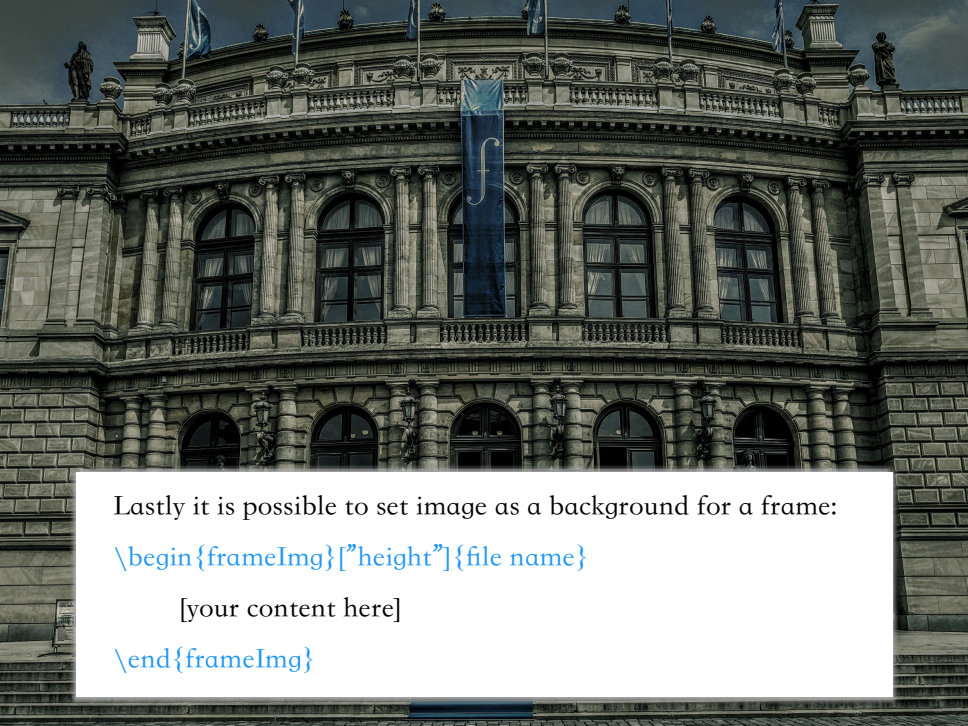
Cards can be filled with anything you want

$$V(x) = \{y \in \mathbb{R}^n \mid \forall z \in P, z \neq x : \|y - x\| \leq \|y - z\|\}$$

left	center	right
1	2	3

### Theorem (Pythagorean)

The sum of the areas of the two squares on the legs equals the area of the square on the hypotenuse.



Lastly it is possible to set image as a background for a frame:

```
\begin{frameImg}[“height”]{file name}
```

[your content here]

```
\end{frameImg}
```



Parameter `["height"]` determines the dimension that is stretched to cover the frame (`["width"]` is default).



Two images side by side with columns.



That is all for now. Despite having successfully presented several project with this theme, it is still work in progress. If this manual is not clear enough, you can also review it's source, that may bring more clarity.

Feel free to submit any issues you find on github:  
<https://github.com/edasubert/beamerMaterialDesign>

This theme is released under MIT license. Feel free to modify or improve or whatever.