Contents

Lecture Series Title

**Author One and
Author Two**

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Lecture Series Title

Author One and
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LECTURE 1
Lecture Name

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This is a Special Section Head

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1.1. This is a numbered first-level section head

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1.1.1.1. *This is a numbered third-level section head.* This is an example of a numbered third-level heading.

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[2]The second author completed work on this lecture while at Mathematical Research Section, School of Mathematical Sciences, Australian National University, Canberra ACT 2601, Australia.

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Lemma 1.1. *Let $f, g \in A(X)$ and let E, F be cozero sets in X.*

(1) *If f is E-regular and $F \subseteq E$, then f is F-regular.*
(2) *If f is E-regular and F-regular, then f is $E \cup F$-regular.*
(3) *If $f(x) \geq c > 0$ for all $x \in E$, then f is E-regular.*

The following is an example of a proof[3].

Proof. Set $j(\nu) = \max(I \backslash a(\nu)) - 1$. Then we have

$$\sum_{i \notin a(\nu)} t_i \sim t_{j(\nu)+1} = \prod_{j=0}^{j(\nu)} (t_{j+1}/t_j).$$

Hence we have

$$\begin{aligned} \prod_\nu \Big(\sum_{i \notin a(\nu)} t_i \Big)^{|a(\nu-1)|-|a(\nu)|} &\sim \prod_\nu \prod_{j=0}^{j(\nu)} (t_{j+1}/t_j)^{|a(\nu-1)|-|a(\nu)|} \\ &= \prod_{j \geq 0} (t_{j+1}/t_j)^{\sum_{j(\nu) \geq j} (|a(\nu-1)|-|a(\nu)|)}. \end{aligned} \tag{1.1}$$

By definition, we have $a(\nu(j)) \supset c(j)$. Hence, $|c(j)| = n - j$ implies (5.4). If $c(j) \notin a$, $a(\nu(j))c(j)$ and hence we have (5.5). □

> This is an example of an extract. The magnetization M_0 of the Ising model is related to the local state probability $P(a) : M_0 = P(1) - P(-1)$. The equivalences are shown in Table 1.

Table 1

	$-\infty$	$+\infty$
$f_+(x,k)$	$e^{\sqrt{-1}kx} + s_{12}(k)e^{-\sqrt{-1}kx}$	$s_{11}(k)e^{\sqrt{-1}kx}$
$f_-(x,k)$	$s_{22}(k)e^{-\sqrt{-1}kx}$	$e^{-\sqrt{-1}kx} + s_{21}(k)e^{\sqrt{-1}kx}$

Definition 1.2. This is an example of the definition style. For $f \in A(X)$, we define

$$\mathcal{Z}(f) = \{E \in Z[X] : f \text{ is } E^c\text{-regular}\}. \tag{1.2}$$

Remark 1.3. This is an example of the remark style. For $f \in A(X)$, we define

$$\mathcal{Z}(f) = \{E \in Z[X] : f \text{ is } E^c\text{-regular}\}. \tag{1.3}$$

Example 1.4. This is an example of the example style. For $f \in A(X)$, we define

$$\mathcal{Z}(f) = \{E \in Z[X] : f \text{ is } E^c\text{-regular}\}. \tag{1.4}$$

Exercise 1.5. This is an example of the `xca` environment. This environment is used for exercises which occur within a section.

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[3] Here is an example of a footnote. Notice that this footnote text is running on so that it can stand as an example of how a footnote with separate paragraphs should be keyed.

And here is the beginning of the second paragraph.

Figure 1. This is an example of a figure caption.

Figure 2

Some preceding text before the `xcb` head. The `xcb` environment is used for exercises that occur at the end of a paper.

Exercises

(1) First item. In the case where in G there is a sequence of subgroups

$$G = G_0, G_1, G_2, \ldots, G_k = e$$

such that each is an invariant subgroup of G_i.

(2) Second item. Its action on an arbitrary element $X = \lambda^\alpha X_\alpha$ has the form

$$[e^\alpha X_\alpha, X] = e^\alpha \lambda^\beta [X_\alpha X_\beta] = e^\alpha c^\gamma_{\alpha\beta} \lambda^\beta X_\gamma, \tag{1.5}$$

 (a) First subitem.

$$-2\psi_2(e) = c^\delta_{\alpha\gamma} c^\gamma_{\beta\delta} e^\alpha e^\beta.$$

 When the form $\psi_1(e)$ is not zero, the expression on the right-hand side of this equation can be written in the form:

 (b) Second subitem.

  (i) First subsubitem. In the case where in G there is a sequence of subgroups

$$G = G_0, G_1, G_2, \ldots, G_k = e$$

  such that each subgroup G_{i+1} is an invariant subgroup of G_i.

  (ii) Second subsubitem.

 (c) Third subitem.

(3) Third item.

Theorem 1.6. *Here is an example of a theorem.*

Theorem 1.7 (Marcus Theorem)**.** *Here is an example of a theorem with the theorem name printed also.*

1.2. Extra list types provided in LaTeX

There are two list types in LaTeX that are not provided in $\mathcal{A}\mathcal{M}\mathcal{S}$-TeX: a bulleted list and a 'description' list. Since they are sometimes used by LaTeX authors, some simple straightforward specs have been implemented for these lists. This is a temporary measure, until more formal specs can be drawn up.

1.2.1. A bulleted list

This is an example of a bulleted list.

- $\mathcal{J}_g$ of dimension $3g-3$;
- $\mathcal{E}_g^2 = \{$Pryms of double covers of $C = \square$ with normalization of C hyperelliptic of genus $g-1\}$ of dimension $2g$;
- $\mathcal{E}_{1,g-1}^2 = \{$Pryms of double covers of $C = \square_{P^1}^{H}$ with H hyperelliptic of genus $g-2\}$ of dimension $2g-1$;
- $\mathcal{P}_{t,g-t}^2$ for $2 \leq t \leq g/2 = \{$Pryms of double covers of $C = \square_{C''}^{C'}$ with $g(C') = t-1$ and $g(C'') = g-t-1\}$ of dimension $3g-4$.

1.2.2. A 'description' list

This is an example of a description list.

Zero case: $\rho(\Phi) = \{0\}$.

Rational case: $\rho(\Phi) \neq \{0\}$ and $\rho(\Phi)$ is contained in a line through 0 with rational slope.

Irrational case: $\rho(\Phi) \neq \{0\}$ and $\rho(\Phi)$ is contained in a line through 0 with irrational slope.

In the zero case we have (a) of the Theorem. In the rational case we have either (a) or (b) of the Theorem. Therefore it remains to investigate the irrational case.

LECTURE 2
Lecture Name

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References

[A] T. Aoki, *Calcul exponentiel des opérateurs microdifferentiels d'ordre infini.* I, Ann. Inst. Fourier (Grenoble) **33** (1983), 227–250.

[B] R. Brown, *On a conjecture of Dirichlet*, Amer. Math. Soc., Providence, RI, 1993.

[D] R. A. DeVore, *Approximation of functions*, Proc. Sympos. Appl. Math. vol. 36, Amer. Math. Soc., Providence, RI, 1986, pp. 34–56.

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