AMS Monograph Series Sample

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Contents

Preface

This document is a sample prepared to illustrate the use of the American Mathematical Society's LaTeX document class `amsbook` and publication-specific variants of that class.

This is an example of an unnumbered chapter which can be used for a Preface or Foreword.

The purpose of this paper is to establish a relationship between an infinite-dimensional Grassmannian and arbitrary algebraic vector bundles of any rank defined over an arbitrary complete irreducible algebraic curve, which generalizes the known connection between the Grassmannian and line bundles on algebraic curves.

Author Name

Part 1

This is a Part Title Sample

CHAPTER 1

AMS Monograph Series Sample

This is an unnumbered first-level section head

This is an example of an unnumbered first-level heading.

This is a Special Section Head

This is an example of a special section head[1].

1.1. This is a numbered first-level section head

This is an example of a numbered first-level heading.

1.1.1. This is a numbered second-level section head. This is an example of a numbered second-level heading.

This is an unnumbered second-level section head. This is an example of an unnumbered second-level heading.

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

This is an unnumbered third-level section head. This is an example of an unnumbered third-level heading.

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.

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

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

[1] 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 written.

And here is the beginning of the second paragraph.

Hence we have

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

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 a 'definition' element. 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 a 'remark' element. 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 an 'example' element. 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.

Some extra text before the `xcb` head. The `xcb` environment is used for exercises that occur at the end of a chapter. Here it contains an example of a numbered list.

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.

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

FIGURE 1. This is an example of a figure caption with text.

FIGURE 2

   (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 and each quotient group G_{i+1}/G_i is abelian, the group G is called *solvable*.
      (ii) Second subsubitem.
   (c) Third subitem.
(3) Third item.

Here is an example of a cite. See [**A**].

THEOREM 1.6. *This is an example of a theorem.*

THEOREM 1.7 (Marcus Theorem). *This is an example of a theorem with a parenthetical note in the heading.*

1.2. Some more list types

This is an example of a bulleted list.

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

This is an example of a 'description' list.

Zero case: $\rho(\Phi) = \{0\}$.
Rational case: $\rho(\Phi) \ne \{0\}$ and $\rho(\Phi)$ is contained in a line through 0 with rational slope.
Irrational case: $\rho(\Phi) \ne \{0\}$ and $\rho(\Phi)$ is contained in a line through 0 with irrational slope.

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