{'headers': {'date': 'Sun, 14 Apr 2024 10:11:25 GMT', 'content-type': 'application/json;charset=utf-8', 'content-length': '16641', 'connection': 'keep-alive', 'keep-alive': 'timeout=25', 'vary': 'Accept-Encoding', 'access-control-allow-origin': '\*', 'access-control-expose-headers': '\*', 'x-acs-request-id': '80010783-9B40-5E8C-967C-61AB26C6745A', 'x-acs-trace-id': '67b3ac26ef4c9355ac16cda0ffae1d4d', 'etag': '1WTlO5+87fbJzOjZwB/0LJg0'}, 'statusCode': 200, 'body': {'Data': '{"algo\_version":"","doc\_layout":[{"layout\_type":"text","pos":[{"x":120,"y":85},{"x":120,"y":191},{"x":1603,"y":191},{"x":1603,"y":85}]},{"layout\_type":"text","pos":[{"x":54,"y":1303},{"x":54,"y":1345},{"x":421,"y":1345},{"x":421,"y":1303}]},{"layout\_type":"text","pos":[{"x":54,"y":533},{"x":54,"y":576},{"x":421,"y":576},{"x":421,"y":533}]},{"layout\_type":"text","pos":[{"x":142,"y":1577},{"x":142,"y":1624},{"x":698,"y":1624},{"x":698,"y":1577}]},{"layout\_type":"foot","pos":[{"x":758,"y":2267},{"x":758,"y":2298},{"x":892,"y":2298},{"x":892,"y":2267}]},{"layout\_type":"text","pos":[{"x":122,"y":1358},{"x":122,"y":1512},{"x":1597,"y":1512},{"x":1597,"y":1358}]},{"layout\_type":"text","pos":[{"x":54,"y":32},{"x":54,"y":74},{"x":420,"y":74},{"x":420,"y":32}]},{"layout\_type":"text","pos":[{"x":139,"y":806},{"x":139,"y":903},{"x":636,"y":903},{"x":636,"y":806}]},{"layout\_type":"text","pos":[{"x":147,"y":600},{"x":147,"y":669},{"x":1593,"y":669},{"x":1593,"y":600}]},{"layout\_type":"text","pos":[{"x":143,"y":1633},{"x":143,"y":1676},{"x":620,"y":1676},{"x":620,"y":1633}]},{"layout\_type":"text","pos":[{"x":138,"y":697},{"x":138,"y":792},{"x":465,"y":792},{"x":465,"y":697}]},{"layout\_type":"text","pos":[{"x":142,"y":1524},{"x":142,"y":1566},{"x":527,"y":1566},{"x":527,"y":1524}]},{"layout\_type":"text","pos":[{"x":125,"y":591},{"x":124,"y":806},{"x":1596,"y":806},{"x":1596,"y":591}]},{"layout\_type":"text","pos":[{"x":142,"y":1579},{"x":142,"y":1677},{"x":698,"y":1677},{"x":698,"y":1579}]}],"doc\_sptext":[{"layout\_type":"bold","pos":[{"x":817,"y":2270},{"x":817,"y":2297},{"x":836,"y":2297},{"x":836,"y":2270}]}],"doc\_subfield":[{"layout\_type":"single","pos":[{"x":48,"y":0},{"x":48,"y":1674},{"x":1602,"y":1674},{"x":1602,"y":0}]}],"figure":[{"type":"subject\_question","x":0,"y":0,"w":0,"h":0,"box":{"x":832,"y":1490,"w":358,"h":1565,"angle":-90},"points":[{"x":49,"y":1312},{"x":1613,"y":1312},{"x":1613,"y":1669},{"x":49,"y":1669}]},{"type":"subject\_question","x":0,"y":0,"w":0,"h":0,"box":{"x":833,"y":725,"w":360,"h":1539,"angle":-90},"points":[{"x":64,"y":546},{"x":1602,"y":546},{"x":1602,"y":905},{"x":64,"y":905}]},{"type":"subject\_question","x":0,"y":0,"w":0,"h":0,"box":{"x":832,"y":114,"w":170,"h":1556,"angle":-90},"points":[{"x":55,"y":29},{"x":1610,"y":29},{"x":1610,"y":198},{"x":55,"y":198}]}],"height":2339,"orgHeight":2339,"orgWidth":1654,"page\_id":0,"page\_title":"","part\_info":[{"part\_title":"","pos\_list":[[{"x":53,"y":36},{"x":1598,"y":37},{"x":1598,"y":1671},{"x":53,"y":1673}]],"subject\_list":[{"index":0,"type":15,"num\_choices":0,"prob":0,"text":"(21)(本题满分11分)设二次型$$f \\\\left( x \_ { 1 } , x \_ { 2 } , x \_ { 3 } \\\\right) = 2 x \_ { 1 } ^ { 2 } - x \_ { 2 } ^ { 2 } + a x \_ { 3 } ^ { 2 } + 2 x \_ { 1 } x \_ { 2 } - 8 x \_ { 1 } x \_ { 3 } + 2 x \_ { 2 } x$$在正交变换x=Qy下的标准形为$$\\\\lambda \_ { 1 } y \_ { 1 } ^ { 2 } + \\\\lambda \_ { 2 } y \_ { 2 } ^ { 2 }$$,求a的值及一个正交矩阵Q.","figure\_list":[],"table\_list":[],"answer\_list":[[{"x":0,"y":29},{"x":1654,"y":29},{"x":1654,"y":537},{"x":0,"y":537}]],"pos\_list":[[{"x":53,"y":29},{"x":1610,"y":29},{"x":1610,"y":198},{"x":53,"y":198}]],"element\_list":[{"type":0,"text":"(21)(本题满分11分)","pos\_list":[[{"x":54,"y":36},{"x":419,"y":37},{"x":419,"y":69},{"x":53,"y":68}]],"content\_list":[{"type":1,"prob":97,"string":"(21)(本题满分11分)","option":"","pos":[{"x":54,"y":36},{"x":419,"y":37},{"x":419,"y":69},{"x":53,"y":68}]}]},{"type":0,"text":"设二次型$$f \\\\left( x \_ { 1 } , x \_ { 2 } , x \_ { 3 } \\\\right) = 2 x \_ { 1 } ^ { 2 } - x \_ { 2 } ^ { 2 } + a x \_ { 3 } ^ { 2 } + 2 x \_ { 1 } x \_ { 2 } - 8 x \_ { 1 } x \_ { 3 } + 2 x \_ { 2 } x$$在正交变换x=Qy下的标准形为$$\\\\lambda \_ { 1 } y \_ { 1 } ^ { 2 } + \\\\lambda \_ { 2 } y \_ { 2 } ^ { 2 }$$,求a的值及一个正交矩阵Q.","pos\_list":[[{"x":141,"y":87},{"x":1596,"y":82},{"x":1596,"y":188},{"x":141,"y":193}]],"content\_list":[{"type":1,"prob":99,"string":"设二次型","option":"","pos":[{"x":141,"y":94},{"x":292,"y":94},{"x":292,"y":127},{"x":142,"y":128}]},{"type":2,"prob":99,"string":"$$f \\\\left( x \_ { 1 } , x \_ { 2 } , x \_ { 3 } \\\\right) = 2 x \_ { 1 } ^ { 2 } - x \_ { 2 } ^ { 2 } + a x \_ { 3 } ^ { 2 } + 2 x \_ { 1 } x \_ { 2 } - 8 x \_ { 1 } x \_ { 3 } + 2 x \_ { 2 } x$$","option":"","pos":[{"x":292,"y":87},{"x":1068,"y":83},{"x":1068,"y":133},{"x":292,"y":136}]},{"type":1,"prob":99,"string":"在正交变换","option":"","pos":[{"x":1067,"y":91},{"x":1274,"y":90},{"x":1274,"y":124},{"x":1068,"y":125}]},{"type":1,"prob":99,"string":"x=Qy","option":"","pos":[{"x":1274,"y":89},{"x":1371,"y":90},{"x":1371,"y":131},{"x":1274,"y":130}]},{"type":1,"prob":99,"string":"下的标准形为","option":"","pos":[{"x":1371,"y":90},{"x":1596,"y":89},{"x":1596,"y":123},{"x":1371,"y":124}]},{"type":2,"prob":99,"string":"$$\\\\lambda \_ { 1 } y \_ { 1 } ^ { 2 } + \\\\lambda \_ { 2 } y \_ { 2 } ^ { 2 }$$","option":"","pos":[{"x":141,"y":143},{"x":334,"y":142},{"x":335,"y":192},{"x":141,"y":193}]},{"type":1,"prob":99,"string":",求","option":"","pos":[{"x":335,"y":152},{"x":389,"y":152},{"x":389,"y":185},{"x":335,"y":185}]},{"type":1,"prob":99,"string":"a","option":"","pos":[{"x":389,"y":158},{"x":413,"y":158},{"x":413,"y":183},{"x":389,"y":183}]},{"type":1,"prob":98,"string":"的值及一个正交矩阵Q.","option":"","pos":[{"x":413,"y":152},{"x":797,"y":149},{"x":798,"y":183},{"x":413,"y":185}]}]}]},{"index":1,"type":15,"num\_choices":0,"prob":0,"text":"(22)(本题满分11分)设随机变量X,Y相互独立,且X的概率分布为P{X=0}=$$P \\\\left\\\\{ X = 0 \\\\right\\\\} = P | X = 2 | = \\\\frac { 1 } { 2 } ,$$的概率密度为/()$$= \\\\left\\\\{ \\\\begin{array}{l} 2 y , 0 < y < 1 , \\\\\\\\ 0 \\\\end{array} \\\\right.$$0, 其他.(I)求P{Y≤E(Y)};(Ⅱ)求Z=X+Y的概率密度.","figure\_list":[],"table\_list":[],"answer\_list":[[{"x":0,"y":537},{"x":1654,"y":537},{"x":1654,"y":1308},{"x":0,"y":1308}]],"pos\_list":[[{"x":53,"y":537},{"x":1602,"y":537},{"x":1602,"y":905},{"x":53,"y":905}]],"element\_list":[{"type":0,"text":"(22)(本题满分11分)","pos\_list":[[{"x":53,"y":538},{"x":418,"y":537},{"x":418,"y":569},{"x":53,"y":569}]],"content\_list":[{"type":1,"prob":99,"string":"(22)(本题满分11分)","option":"","pos":[{"x":53,"y":538},{"x":418,"y":537},{"x":418,"y":569},{"x":53,"y":569}]}]},{"type":0,"text":"设随机变量X,Y相互独立,且X的概率分布为P{X=0}=$$P \\\\left\\\\{ X = 0 \\\\right\\\\} = P | X = 2 | = \\\\frac { 1 } { 2 } ,$$的概率密度为/()$$= \\\\left\\\\{ \\\\begin{array}{l} 2 y , 0 < y < 1 , \\\\\\\\ 0 \\\\end{array} \\\\right.$$0, 其他.","pos\_list":[[{"x":139,"y":595},{"x":1592,"y":588},{"x":1593,"y":780},{"x":139,"y":787}]],"content\_list":[{"type":1,"prob":98,"string":"设随机变量X,Y相互独立,且X的概率分布为P{X=0}=","option":"","pos":[{"x":141,"y":619},{"x":1032,"y":615},{"x":1032,"y":648},{"x":142,"y":652}]},{"type":2,"prob":95,"string":"$$P \\\\left\\\\{ X = 0 \\\\right\\\\} = P | X = 2 | = \\\\frac { 1 } { 2 } ,$$","option":"","pos":[{"x":868,"y":592},{"x":1287,"y":589},{"x":1287,"y":676},{"x":868,"y":680}]},{"type":1,"prob":91,"string":"的概率密度为/()","option":"","pos":[{"x":1287,"y":599},{"x":1591,"y":595},{"x":1592,"y":662},{"x":1288,"y":666}]},{"type":2,"prob":89,"string":"$$= \\\\left\\\\{ \\\\begin{array}{l} 2 y , 0 < y < 1 , \\\\\\\\ 0 \\\\end{array} \\\\right.$$","option":"","pos":[{"x":139,"y":690},{"x":463,"y":690},{"x":463,"y":771},{"x":139,"y":771}]},{"type":1,"prob":93,"string":"0,其他.","option":"","pos":[{"x":180,"y":746},{"x":361,"y":748},{"x":360,"y":786},{"x":180,"y":784}]}]},{"type":0,"text":"(I)求P{Y≤E(Y)};(Ⅱ)求Z=X+Y的概率密度.","pos\_list":[[{"x":140,"y":805},{"x":634,"y":804},{"x":634,"y":900},{"x":141,"y":900}]],"content\_list":[{"type":1,"prob":93,"string":"(I)求","option":"","pos":[{"x":141,"y":810},{"x":276,"y":810},{"x":276,"y":843},{"x":140,"y":843}]},{"type":1,"prob":99,"string":"P{Y≤E(Y)};","option":"","pos":[{"x":276,"y":805},{"x":523,"y":804},{"x":523,"y":847},{"x":276,"y":848}]},{"type":1,"prob":99,"string":"(Ⅱ)求","option":"","pos":[{"x":143,"y":865},{"x":276,"y":865},{"x":276,"y":896},{"x":143,"y":896}]},{"type":1,"prob":99,"string":"Z=X+Y","option":"","pos":[{"x":276,"y":861},{"x":437,"y":861},{"x":437,"y":900},{"x":276,"y":899}]},{"type":1,"prob":99,"string":"的概率密度.","option":"","pos":[{"x":437,"y":865},{"x":634,"y":864},{"x":634,"y":896},{"x":437,"y":896}]}]}]},{"index":2,"type":15,"num\_choices":0,"prob":0,"text":"(23)(本题满分11分)某工程师为了解一台天平的精度,用该天平对一物体的质量做n次测量,该物体的质量\\\\mu是已知的,设n次测量结果$$X \_ { 1 } , X \_ { 2 } , \\\\cdots , X \_ { n }$$相互独立且均服从正态分布$$N \\\\left( \\\\mu , \\\\sigma ^ { 2 } \\\\right) .$$.该工程师记录的是n次测量的绝对误差$$Z \_ { i } = | X \_ { i } - \\\\mu | \\\\left( i = 1 , 2 , \\\\cdots , n \\\\right) ,$$利用$$Z \_ { 1 } , Z \_ { 2 } , \\\\cdots , Z \_ { n }$$估计σ.(I)求$$Z \_ { 1 }$$的概率密度;(Ⅱ)利用一阶矩求的矩估计量;(Ⅲ)求O的最大似然估计量.","figure\_list":[],"table\_list":[],"answer\_list":[[{"x":0,"y":1308},{"x":1654,"y":1308},{"x":1654,"y":2339},{"x":0,"y":2339}]],"pos\_list":[[{"x":49,"y":1308},{"x":1613,"y":1308},{"x":1613,"y":1673},{"x":49,"y":1673}]],"element\_list":[{"type":0,"text":"(23)(本题满分11分)","pos\_list":[[{"x":53,"y":1308},{"x":420,"y":1308},{"x":420,"y":1339},{"x":53,"y":1340}]],"content\_list":[{"type":1,"prob":99,"string":"(23)(本题满分11分)","option":"","pos":[{"x":53,"y":1308},{"x":420,"y":1308},{"x":420,"y":1339},{"x":53,"y":1340}]}]},{"type":0,"text":"某工程师为了解一台天平的精度,用该天平对一物体的质量做n次测量,该物体的质量\\\\mu是已知的,设n次测量结果$$X \_ { 1 } , X \_ { 2 } , \\\\cdots , X \_ { n }$$相互独立且均服从正态分布$$N \\\\left( \\\\mu , \\\\sigma ^ { 2 } \\\\right) .$$.该工程师记录的是n次测量的绝对误差$$Z \_ { i } = | X \_ { i } - \\\\mu | \\\\left( i = 1 , 2 , \\\\cdots , n \\\\right) ,$$利用$$Z \_ { 1 } , Z \_ { 2 } , \\\\cdots , Z \_ { n }$$估计σ.","pos\_list":[[{"x":140,"y":1364},{"x":1598,"y":1357},{"x":1598,"y":1513},{"x":141,"y":1520}]],"content\_list":[{"type":1,"prob":99,"string":"某工程师为了解一台天平的精度,用该天平对一物体的质量做n次测量,该物体的质量","option":"","pos":[{"x":140,"y":1364},{"x":1523,"y":1360},{"x":1523,"y":1392},{"x":140,"y":1397}]},{"type":1,"prob":99,"string":"\\\\mu","option":"","pos":[{"x":1523,"y":1368},{"x":1551,"y":1368},{"x":1551,"y":1401},{"x":1523,"y":1401}]},{"type":1,"prob":99,"string":"是","option":"","pos":[{"x":1551,"y":1360},{"x":1597,"y":1360},{"x":1597,"y":1392},{"x":1551,"y":1392}]},{"type":1,"prob":99,"string":"已知的,设n次测量结果","option":"","pos":[{"x":141,"y":1421},{"x":535,"y":1419},{"x":535,"y":1453},{"x":141,"y":1454}]},{"type":2,"prob":99,"string":"$$X \_ { 1 } , X \_ { 2 } , \\\\cdots , X \_ { n }$$","option":"","pos":[{"x":535,"y":1416},{"x":735,"y":1414},{"x":735,"y":1459},{"x":535,"y":1461}]},{"type":1,"prob":99,"string":"相互独立且均服从正态分布","option":"","pos":[{"x":735,"y":1418},{"x":1208,"y":1416},{"x":1208,"y":1450},{"x":735,"y":1452}]},{"type":2,"prob":97,"string":"$$N \\\\left( \\\\mu , \\\\sigma ^ { 2 } \\\\right) .$$","option":"","pos":[{"x":1208,"y":1413},{"x":1365,"y":1412},{"x":1365,"y":1455},{"x":1208,"y":1457}]},{"type":1,"prob":97,"string":".该工程师记录","option":"","pos":[{"x":1365,"y":1416},{"x":1598,"y":1415},{"x":1598,"y":1448},{"x":1365,"y":1449}]},{"type":1,"prob":99,"string":"的是n次测量的绝对误差","option":"","pos":[{"x":142,"y":1478},{"x":554,"y":1475},{"x":554,"y":1507},{"x":142,"y":1510}]},{"type":2,"prob":98,"string":"$$Z \_ { i } = | X \_ { i } - \\\\mu | \\\\left( i = 1 , 2 , \\\\cdots , n \\\\right) ,$$","option":"","pos":[{"x":554,"y":1471},{"x":1053,"y":1468},{"x":1053,"y":1513},{"x":554,"y":1515}]},{"type":1,"prob":99,"string":"利用","option":"","pos":[{"x":1053,"y":1472},{"x":1138,"y":1472},{"x":1138,"y":1504},{"x":1053,"y":1504}]},{"type":2,"prob":99,"string":"$$Z \_ { 1 } , Z \_ { 2 } , \\\\cdots , Z \_ { n }$$","option":"","pos":[{"x":1138,"y":1471},{"x":1346,"y":1469},{"x":1346,"y":1513},{"x":1138,"y":1515}]},{"type":1,"prob":99,"string":"估计σ.","option":"","pos":[{"x":1346,"y":1470},{"x":1474,"y":1470},{"x":1474,"y":1502},{"x":1346,"y":1503}]}]},{"type":0,"text":"(I)求$$Z \_ { 1 }$$的概率密度;","pos\_list":[[{"x":144,"y":1524},{"x":524,"y":1523},{"x":524,"y":1566},{"x":145,"y":1567}]],"content\_list":[{"type":1,"prob":94,"string":"(I)","option":"","pos":[{"x":145,"y":1524},{"x":216,"y":1524},{"x":216,"y":1564},{"x":145,"y":1564}]},{"type":1,"prob":99,"string":"求","option":"","pos":[{"x":216,"y":1528},{"x":277,"y":1528},{"x":277,"y":1561},{"x":216,"y":1561}]},{"type":2,"prob":99,"string":"$$Z \_ { 1 }$$","option":"","pos":[{"x":277,"y":1528},{"x":313,"y":1528},{"x":313,"y":1566},{"x":277,"y":1566}]},{"type":1,"prob":99,"string":"的概率密度;","option":"","pos":[{"x":313,"y":1528},{"x":524,"y":1528},{"x":524,"y":1560},{"x":313,"y":1561}]}]},{"type":0,"text":"(Ⅱ)利用一阶矩求的矩估计量;","pos\_list":[[{"x":141,"y":1585},{"x":698,"y":1582},{"x":698,"y":1616},{"x":141,"y":1618}]],"content\_list":[{"type":1,"prob":99,"string":"(Ⅱ)利用一阶矩求","option":"","pos":[{"x":141,"y":1585},{"x":459,"y":1583},{"x":459,"y":1617},{"x":141,"y":1618}]},{"type":1,"prob":92,"string":"的矩估计量;","option":"","pos":[{"x":487,"y":1583},{"x":698,"y":1582},{"x":698,"y":1616},{"x":487,"y":1617}]}]},{"type":0,"text":"(Ⅲ)求O的最大似然估计量.","pos\_list":[[{"x":142,"y":1640},{"x":616,"y":1638},{"x":616,"y":1671},{"x":142,"y":1673}]],"content\_list":[{"type":1,"prob":99,"string":"(Ⅲ)求","option":"","pos":[{"x":142,"y":1640},{"x":276,"y":1639},{"x":276,"y":1672},{"x":142,"y":1673}]},{"type":1,"prob":95,"string":"O","option":"","pos":[{"x":276,"y":1645},{"x":304,"y":1645},{"x":304,"y":1671},{"x":276,"y":1671}]},{"type":1,"prob":99,"string":"的最大似然估计量.","option":"","pos":[{"x":304,"y":1639},{"x":616,"y":1638},{"x":616,"y":1671},{"x":304,"y":1672}]}]}]}]}],"prism\_version":"1.0.9","prism\_wnum":0,"width":1654}', 'RequestId': '80010783-9B40-5E8C-967C-61AB26C6745A'}}